

# Reinsurance in a rapidly changing risk landscape: challenges and opportunities ahead

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Alumni & Friends Actuarial Leuven  
14<sup>th</sup> October 2025



## Introduction

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# What is reinsurance?

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Let's have a 45' presentation, followed by a Q&A sessions



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7. Looking Ahead: Preparing for the Future

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# The Evolving Risk Landscape

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# The Evolving Risk Landscape

The floor is yours



# Global Risks Report 2025

The Global Risks Report 2025 highlights an increasingly fractured global landscape, with state-based armed conflict, misinformation, and environmental challenges identified as the top risks threatening stability and progress

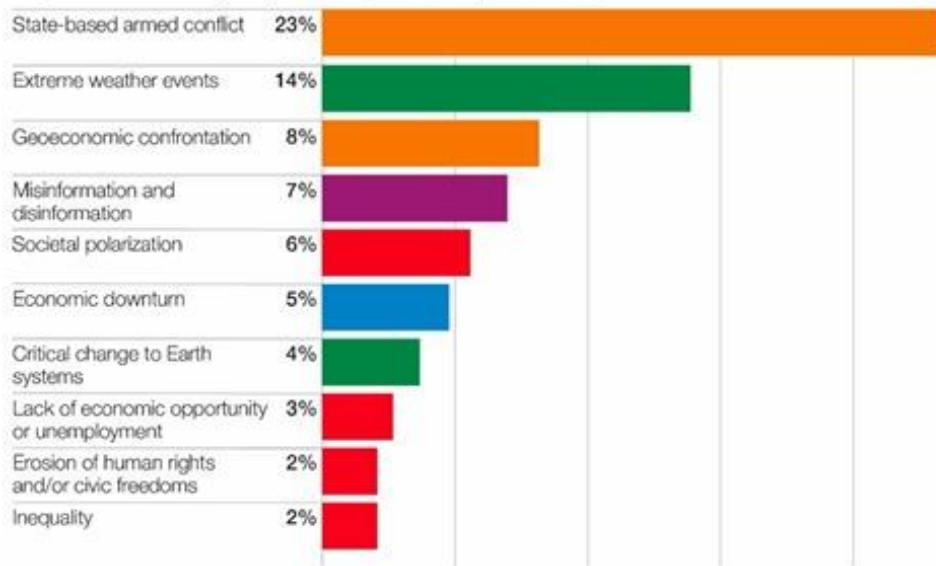
The 20th edition of the Global Risks Report 2025 reveals an **increasingly fractured global landscape, where escalating geopolitical, environmental, societal and technological challenges** threaten stability and progress. This edition presents the findings of the Global Risks Perception Survey 2024-2025 (GRPS), which captures insights from over 900 experts worldwide. The report analyses global risks through three timeframes to support decision-makers in balancing current crises and longer-term priorities.



# Global Risks Report 2025

Please select one risk that you believe is most likely to present a material crisis on a global scale in 2025

Top 10 risks selected by respondents (Share of respondents %)



Risk categories: Economic (Blue), Environmental (Green), Geopolitical (Orange), Societal (Red), Technological (Purple)

Source: World Economic Forum, Global Risks Perception Survey 2024-2025

Please estimate the likely impact (severity) of the following risks over a 2-year and 10-year period

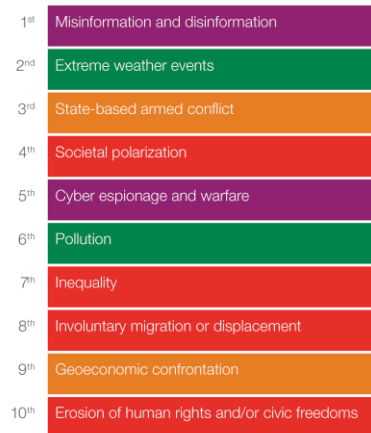
Global Risks Report 2025

## Global risks ranked by severity

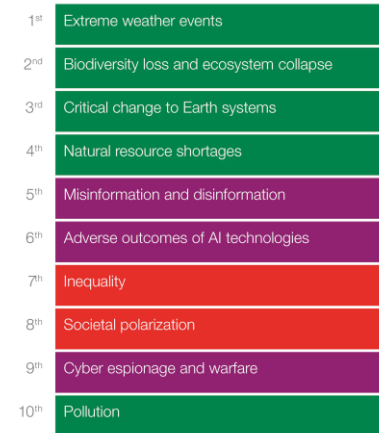


Please estimate the likely impact (severity) of the following risks over a 2-year and 10-year period.

Short term (2 years)



Long term (10 years)



Risk categories: Economic (Blue), Environmental (Green), Geopolitical (Orange), Societal (Red), Technological (Purple)

Source: World Economic Forum, Global Risks Perception Survey 2024-2025

# Insurance Bananas Skins 2025

The report, which is the 10th edition of a biennial series that goes back to 2011, was conducted from June-August 2025, and is based on 698 responses from 42 territories.

Insurance top 10 risks						
	2025	2023	2021	2019	2017	2015
1	Crime (Cyber)	Crime (Cyber)	Crime (Cyber)	Technology	Change management	Regulation
2	Artificial intelligence	Suitability of regulation	Regulation	Cyber risk	Cyber risk	Macro-economy
3	Technology	Climate change	Technology	Change management	Technology	Interest rates
4	Macro-economy	Technology	Climate change	Regulation	Interest rates	Cyber risk
5	Climate change	Human talent	Interest rates	Investment performance	Investment performance	Investment performance
6	Regulatory changes	Macro-economy	Human talent	Climate change	Regulation	Change management
7	Human talent	Artificial intelligence	Change management	Competition	Macro-economy	Guaranteed products
8	Change management	Interest rates	Competition	Human talent	Competition	Distribution channels
9	Political Risks	Cost reduction	Investment performance	Macro-economy	Human talent	Natural catastrophes
10	Suitability of regulation	Change management	Macro-economy	Interest rates	Guaranteed products	Quality of risks management

# An international perspective on natural disasters

## Losses due to natural disasters have been on the increase for decades

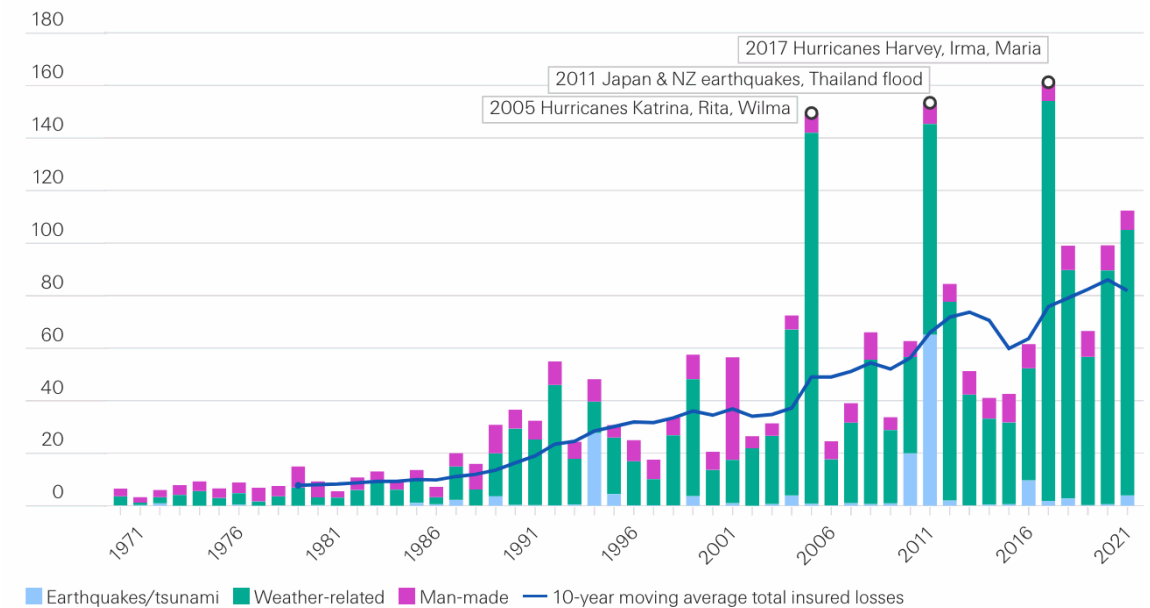
- Climate change means increased extreme weather and precipitations
- But nat. cat. risks can be accentuated by other factors; for example: urbanization, increased insurance penetration, intensive agriculture...for flood risk
- People concentration increases catastrophe risk, both natural disaster and man-made
- But also the human risk
  - Example: pandemic risk materializes much more in large cities
  - Other man-made risks have increased too: nuclear risk, deep boring...
- Insurability of some risks is becoming an issue

***Climate Shocks Are Making Parts of America Uninsurable. It Just Got Worse.***  
 The largest insurer in California said it would stop offering new coverage. It's part of a broader trend of companies pulling back from dangerous areas.

The New York Times - May 31, 2023

### Insured losses since 1970

USD billion (in 2021 prices)  
 Rollover/touch chart for details

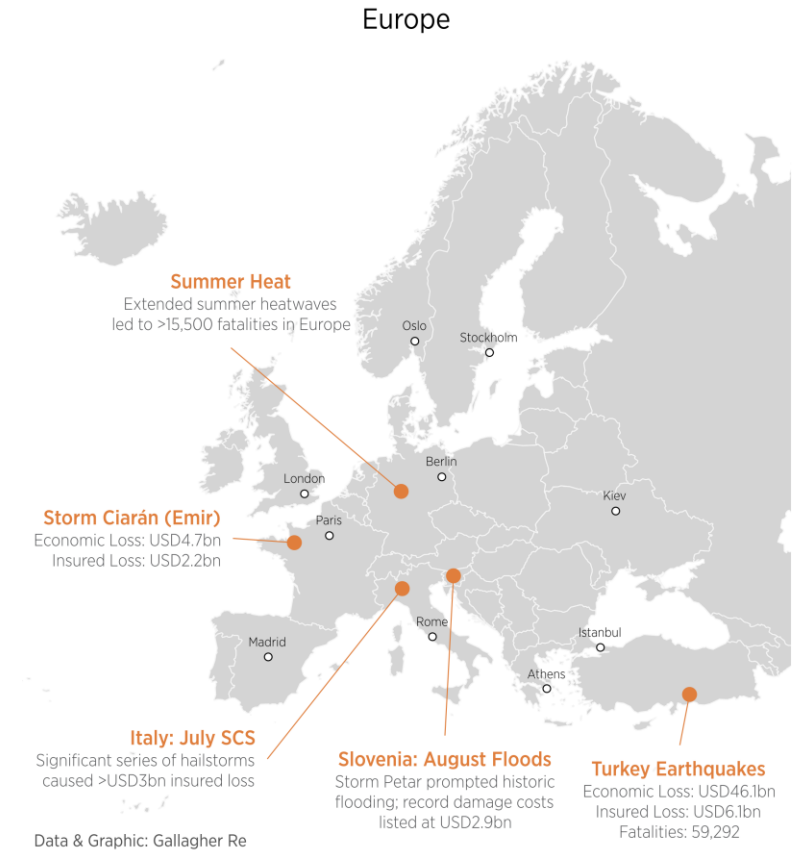
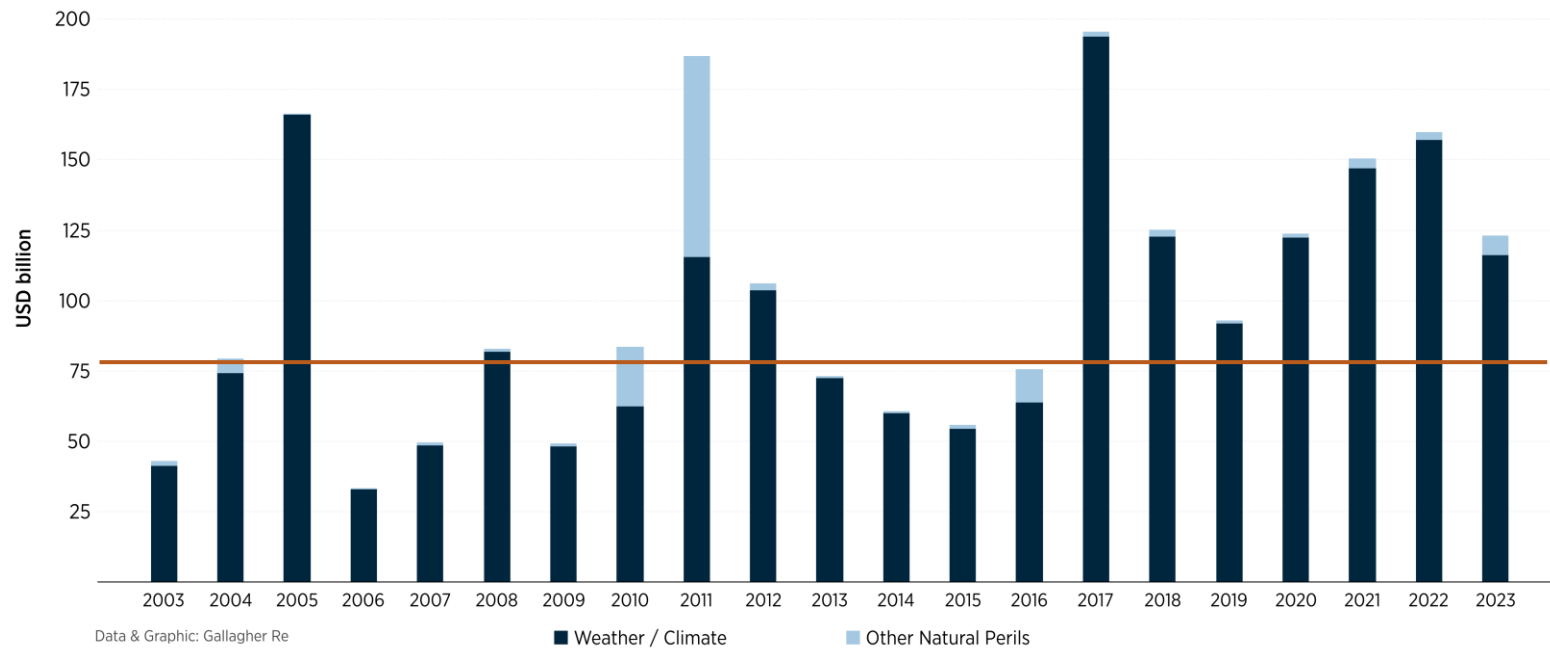


Source: Swiss Re Institute

Source: Swiss Re

# An international perspective on natural disasters

2023 marks the fourth consecutive year that nominal insured losses have topped USD100 billion (USD123 billion) and the sixth year out of the last seven. A new normal



If we do not meaningfully change the status quo and subsequently reverse the growth of carbon dioxide emissions, then we should no longer be surprised at the consequences of more extreme weather/ climate events that are influenced by warmer ocean waters and a destabilized atmosphere

# An international perspective on natural disasters

The emergence of “secondary” perils – 2023 was a year marked by the dominance of secondary perils  
Some 2023 events

Flood: flooding and flash-flooding continued to grab headlines across Europe throughout the year.

- Catastrophic flooding in Italy’s Emilia-Romagna region in May Storm Minerva (Chappu) and in the Tuscany region in November (associated with Ciarán/Emir).
- Historic flooding and flash-flooding likewise occurred in Slovenia (Petar/Zacharias) and the Nordics (Hans) in August; across eastern Greece in September (Daniel and Elias); and in the UK in October (Babet and Aline).

Wildfire :

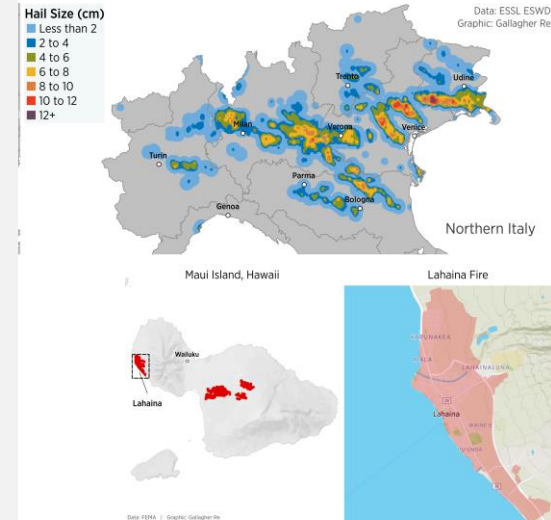
- A historic wildfire on Hawaii’s Maui Island resulted in extensive damage in the city of Lahaina, with total direct economic costs estimated at up to USD6 billion and USD3.8 billion in insured costs
- Record year in Canada, events in Greece and Chile

Severe Conductive Storms:

- July SCS becomes Italy’s costliest weather and climate event
- A significant portion of the insured losses (57%) resulted from the severe convective storm (SCS) peril. The SCS peril topped USD71 billion in 2023, of which USD60 billion occurred in the US alone. This set a record for insurers globally and in the US

Drought & subsidence:

- 2023 is the third consecutive year with indemnity payments topping USD5 billion in the US
- The “Cat Nat” French system is experiencing increasing subsidence losses



# SONAR promotes awareness of risks that matter to insurers today and those that will in the future

## Summary of Structural and Emerging Risks 2025

### Structural Risks in Insurance

Structural risks include climate change, declining consumer trust, excess mortality, aging populations, social inflation, and digital technology risks impacting insurance.

### Short-term Emerging Risks

Short-term threats involve extreme heat, deepfakes, fungi losses, new healthcare tech, and growing drone usage affecting insurance.

### Medium-term Emerging Risks

Medium-term risks include plastics litigation, workforce skill gaps, and ultra-processed food health concerns influencing liability claims.

### Impacts on Insurance Sectors

These risks affect Property, Specialty, Casualty, Life & Health, Financial Markets, and Operations insurance sectors significantly.

Source: Swiss Re SONAR 2025

# The Role of Reinsurance in Risk Management

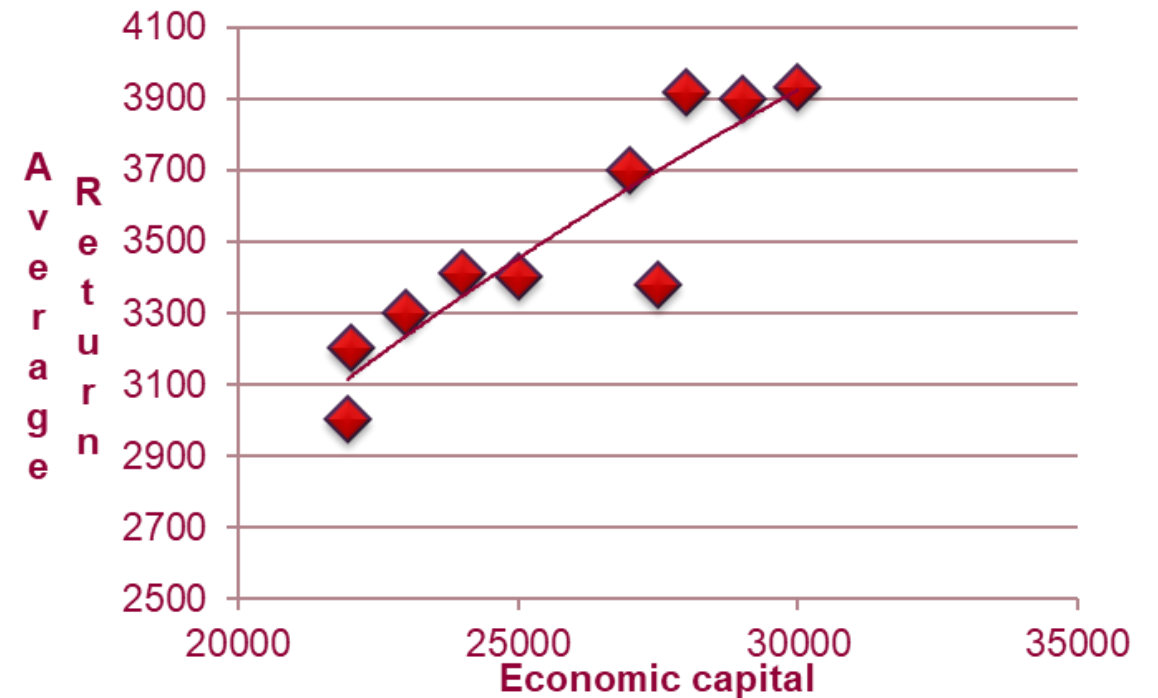
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# The Role of Reinsurance

## In a nutshell

- Reinsurance is the insurance of the insurers
- Risk transfer mechanism: spreading risk across the global market
- Can be seen as contingent capital
- Capital relief for insurers to maintain solvency
- Reduction of the P&L volatility
- Optimal reinsurance: finding the best balance between own capital and reinsurance
- Innovation: new risks to cover, new risk transfer mechanisms



# Reinsurance is the insurance of insurers

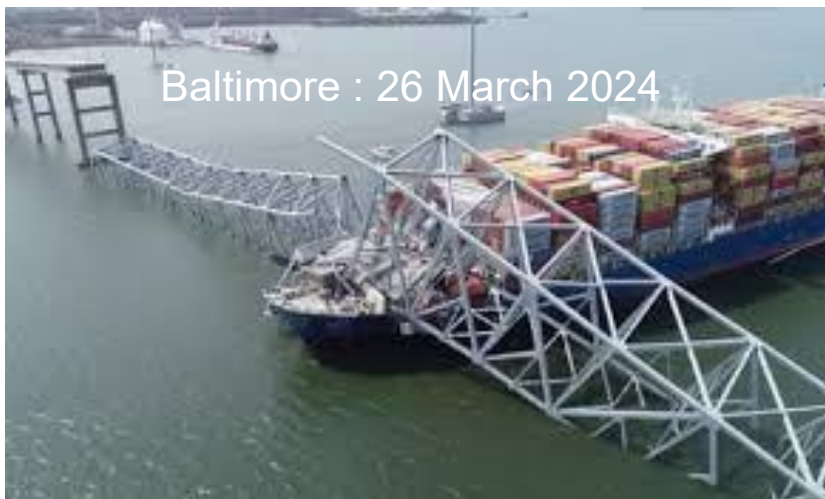
Berndt floods: 12-15 July 2021



Earthquake in Morocco: 30 sept. 2023



Baltimore : 26 March 2024



Brussels airport: 22 March 2016



# Bernd: floods in Belgium – July 2021

## Should we expect more extreme natural disasters in the future in Belgium?

- Until recently, cover for natural disasters did not raise many questions in Belgium
  - Simple risks: compulsory cover under fire policies
  - Special risks: cover available on the market
- Experience was moderate
- The floods of July 2021 (Bernd) reminded us that exposure to natural disasters is very real => These floods have shown all the limits of the existing cover system too

### Bernd in EUR:

Type of risk	Cost (M EUR) 31 Dec. 2023
Simple risks	1,991 (961 paid by insurers)
Special risks	333
Motor	66
Total	2,319

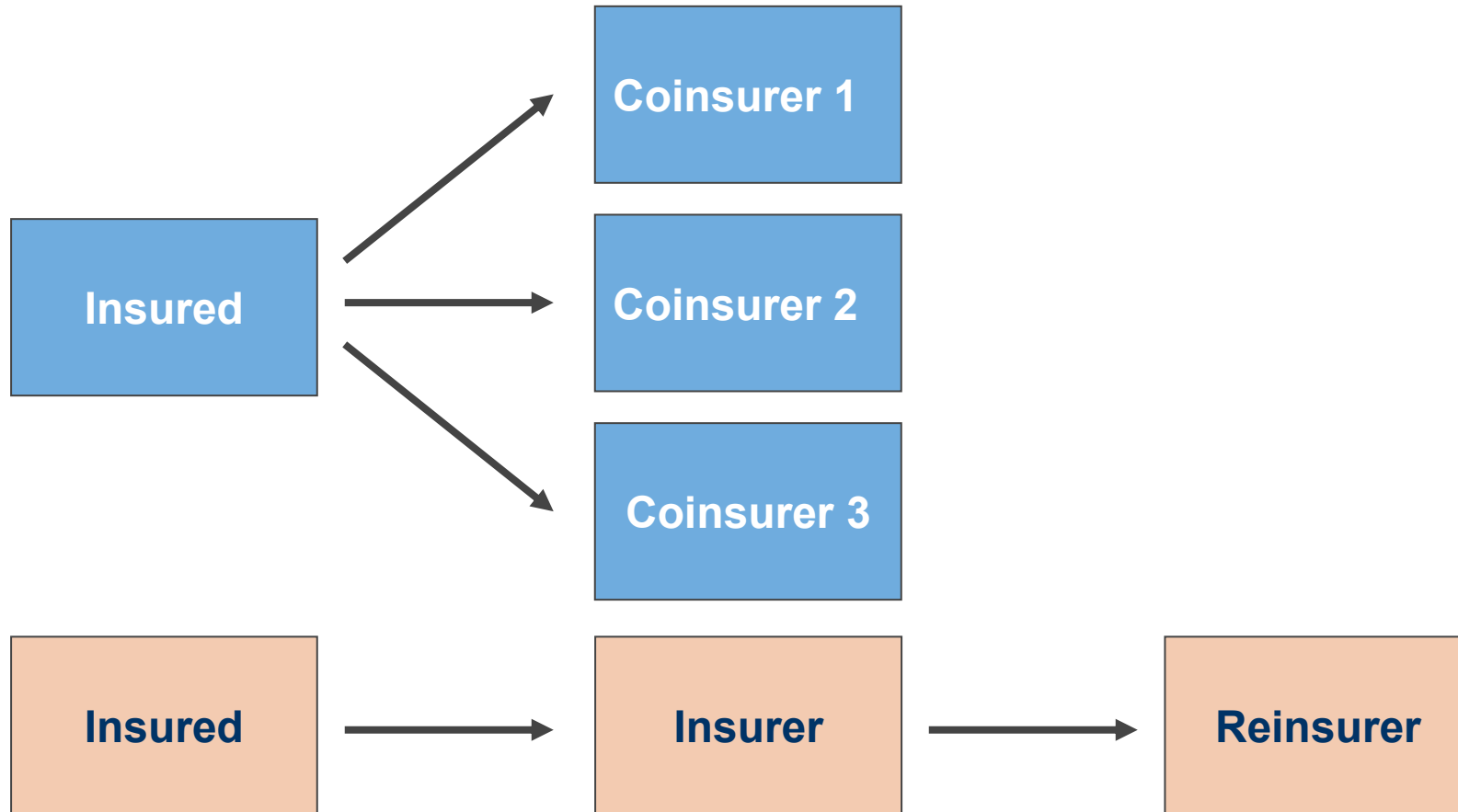
Source: Assuralia



Market premium income 2021	EUR 30Bn
Average result	8% = EUR 2,4M

# Reinsurance <> Coinsurance

Reinsurance is a type of insurance that insurers use to protect themselves. Coinsurance, on the other hand, is a shared risk model where two or more insurers share the risk and the premium of a single policy.



# History of reinsurance

The first identified reinsurance contract dates from 1370

## 600+ years of history

**1370** : first reinsurance contract (travel between Genoa and Sluis, reinsured for its part between Cadix and Sluis)

**14th century** : facultative reinsurance

**19th century** : obligatory reinsurance (treaties)

**1842** : major fire in Hamburg

**1846** : Kolnische Rück

**1861** : major fire in Glarus

## Reinsurance is now accessible to a variety of investors

**1863** : Swiss Re

**1880** : non proportional reinsurance

**1980** : professional reinsurers

**1990** : end of the long relationships – end of recurrent profit to share

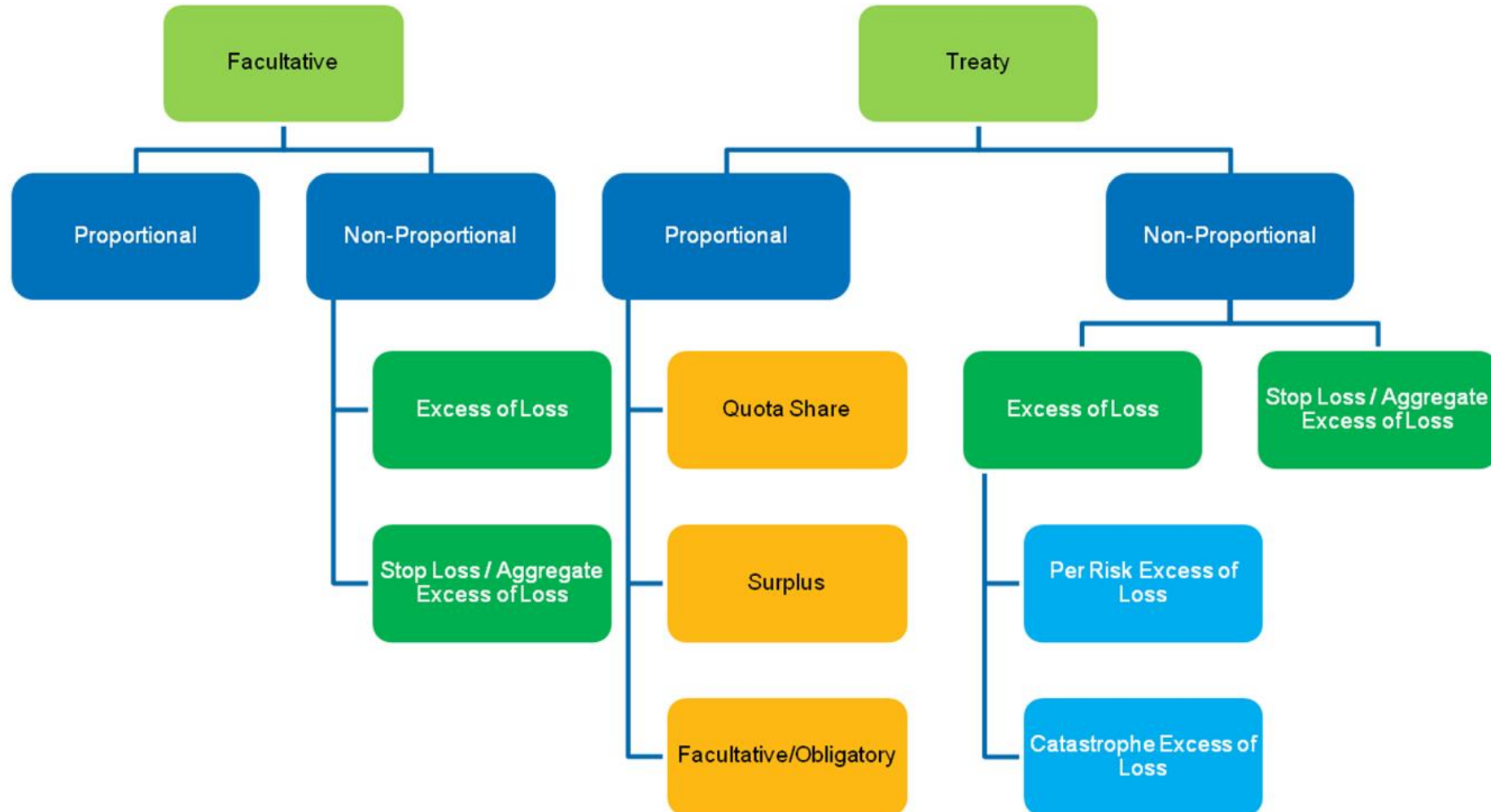
**2000** : financial market is new player in (re)insurance market

# Top 50 World's Largest Reinsurance Groups

#	Reinsurers	Life & Non-Life Re GWP, mn \$	Life & Non-Life Re NWP, mn \$
1	Munich Re	\$51,331	\$48,550
2	Swiss Re	\$39,749	\$37,302
3	Hannover Re	\$35,528	\$29,672
4	Canada Life Re	\$23,414	\$23,414
5	Berkshire Hathaway	\$22,147	\$22,147
6	SCOR	\$21,068	\$17,055
7	Lloyd's	\$18,533	\$14,162
8	China Re	\$16,865	\$15,395
9	Reinsurance Group of America	\$13,823	\$13,052
10	Everest Re	\$9,316	\$8,983
11	RenaissanceRe	\$9,214	\$7,196
12	PartnerRe	\$8,689	\$7,544
13	Korean Re	\$7,804	\$5,797
14	Arch Capital Group	\$6,948	\$4,924
15	MS&AD Insurance Group	\$5,153	N/A
16	General Insurance Corp of India	\$4,519	\$4,108
17	Sompo International	\$4,119	\$3,715
18	MAPFRE Re	\$3,849	\$3,273
19	Assicurazioni Generali	\$3,822	\$3,822
20	Odyssey Re	\$3,721	\$3,595
21	AXA XL	\$3,385	\$2,812
22	R+V Versicherung	\$3,158	\$3,158
23	Validus Re	\$3,080	\$2,529
24	Pacific Life	\$2,995	\$2,546
25	The Toa Re	\$2,931	\$2,397

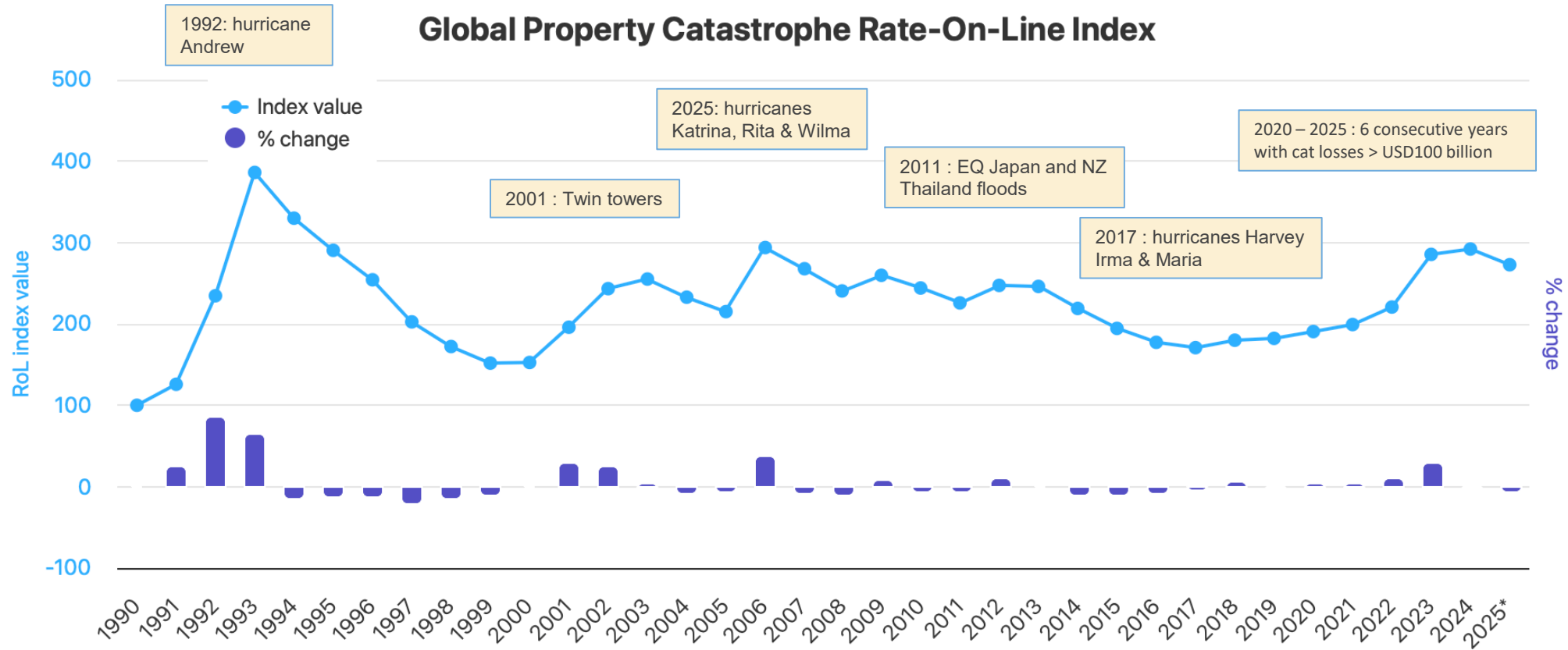
#	Reinsurers	Life & Non-Life Re GWP, mn \$	Life & Non-Life Re NWP, mn \$
26	Liberty Mutual	\$2,921	\$2,567
27	Axis Capital	\$2,629	\$1,885
28	Peak Re	\$2,295	\$1,758
29	Taiping Re	\$2,276	\$2,035
30	Caisse Centrale de Reassurance	\$2,206	\$2,007
31	Qianhai Re	\$1,841	\$740
32	Aspen Insurance	\$1,807	\$1,426
33	QBE Insurance	\$1,784	\$1,580
34	Tokio Marine & Nichoda Fire Insurance	\$1,656	\$1,321
35	Deutsche Rueckversicherung	\$1,610	\$1,096
36	American Agricultural Insurance	\$1,556	\$479
37	SiriusPoint	\$1,521	\$1,200
38	IRB – Brasil Resseguros	\$1,493	\$940
39	Allied World Assurance	\$1,492	\$1,388
40	Convex Group	\$1,492	\$1,139
41	Markel Corp	\$1,231	\$1,168
42	Chubb	\$1,095	\$943
43	W.R. Berkley Corp	\$1,081	\$997
44	Core Specialty	\$1,043	\$777
45	Hiscox	\$1,038	\$268
46	Somers Re	\$1,019	\$855
47	African Re	\$952	\$773
48	DEVK Re	\$848	\$759
49	Lancashire	\$842	\$629
50	Nacional de Reaseguros	\$737	\$610

# The family of reinsurance contracts



# Reinsurance remains cyclical

Global property cat ROL index down 6.6% at Jan 1 reinsurance renewals



Source: Data from Guy Carpenter, presented by Artemis.bm

# Challenges Facing Reinsurance

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## The rapidly changing risk landscape poses numerous challenges for reinsurers

Reinsurers face challenges specific to their sector, but also broader challenges

Non exhaustive list

- Cycle management
- Climate change and impact on the (re)insurance industry
- Underwriting complexity for emerging risks
- Model risk, unmodelled risks, secondary perils
- Capacity constraints in high-risk areas
- Unstable geopolitical environment
- Leveraging technology: AI, machine learning, big data
- Cyber threat
- Regulatory and compliance pressures
- War for talent

**But risks also mean opportunities**

# Opportunities for Growth and Innovation

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# Some examples of innovation

The reinsurance market has continued to innovate over the years.

- Insurance Linked Securities
- Cyber (re)insurance
- Solvency II optimisation
  - Mass lapse risk reinsurance
  - Block reinsurance
- Public-Private Partnerships
- Parametric
- Structured reinsurance

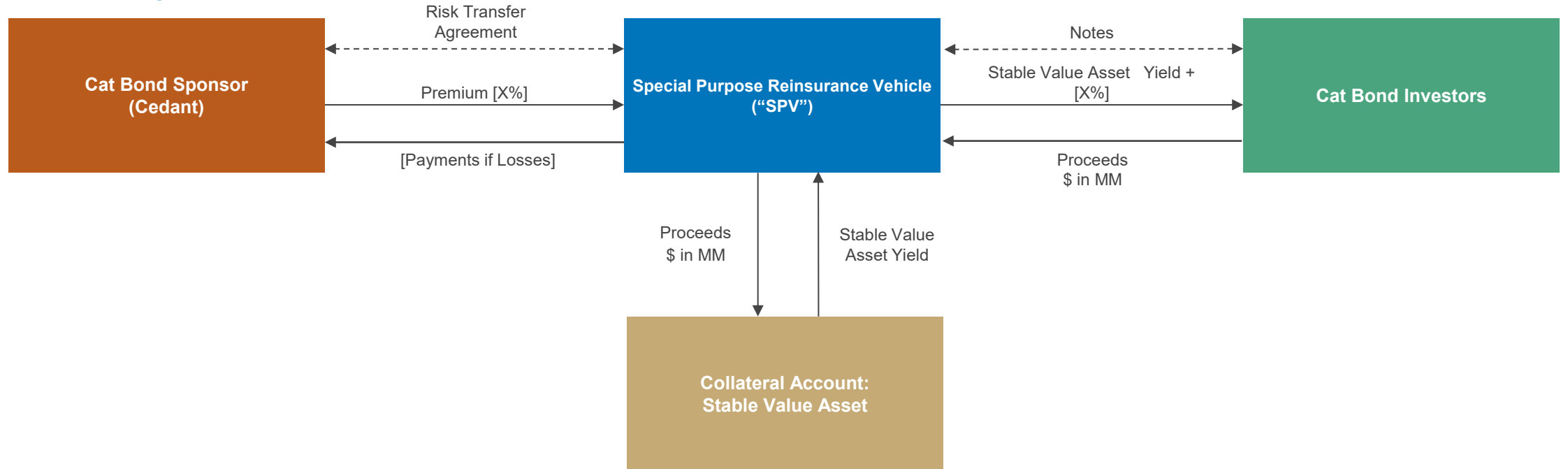
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# A typical ILS Structure: the cat bond

Cat Bonds require an SPV and a Collateral Account to offset investors absence of reinsurance license



**The special purpose vehicle is formed solely to issue Notes and hold proceeds in a trust to collateralize an insurance agreement**

- The SPV is typically domiciled in Bermuda or Ireland and is licensed by the local regulator to write insurance business
- At issuance of the Notes, proceeds are deposited in the Collateral Account and invested in highly rated assets

**In the event of a claim under the Risk Transfer Agreement agreement, the Cedant can draw on the collateral**

**Investors receive the investment income on the collateral held in trust, plus a quarterly premium payment from the Cedant**

# Reinsurance Product Spectrum

## Overview



Despite year on year rate increases, remains a core part of carriers reinsurance protection

- Indemnity based contracts with **flexible structures** to suit buyers' requirements
- Can be placed with a broad range of both rated and collateralized counterparties



Private or Publicly traded transaction, with the ability to access significant limit

- **Fully collateralized** securitization, alternative to traditional reinsurance
- Issued by (re)insurers or other corporate sponsors (ILS market)
- **Cat Bonds** function similarly to XL layered programs and tend to cover the more remote "tail" layers.



Efficient mechanism for deploying third party capital

- **Fully collateralized** securitization, alternative to traditional QS reinsurance
- Issued by (re)insurers or other (ILS market)
- Limited capacity available

# Why use ILS?

## Additional value beyond traditional markets

 <p>Diversify capacity providers</p>	<ul style="list-style-type: none"> <li>• ILS investors not typically linked to traditional reinsurance panel</li> <li>• Provide alternative source of capital to fulfil (re)insurer requirements</li> <li>• Less correlated with traditional market cycles</li> </ul>
 <p>Favourable ILS Market landscape</p>	<ul style="list-style-type: none"> <li>• Much of <b>ILS market is softening</b> due to increased investment</li> <li>• Allowing sponsors to secure <b>significant capacity at competitive pricing – potential savings</b></li> </ul>
 <p>Certainty</p>	<ul style="list-style-type: none"> <li>• Some ILS products are <b>multi-year deals</b> – securing capacity for up to 5 years, providing certainty</li> <li>• <b>Prices are fixed</b> for cover of period</li> <li>• <b>Resets maintain flexibility to restructure</b> within some pre-defined constraints</li> </ul>
 <p>Flexibility</p>	<ul style="list-style-type: none"> <li>• ILS investors open to <b>wide array of structures</b>, being most interested in the risk</li> <li>• <b>Various trigger choices</b> - indemnity / index-based / parametric</li> <li>• Can be used to <b>target most challenging parts of traditional placement</b></li> </ul>
 <p>Competition</p>	<ul style="list-style-type: none"> <li>• In context of hardening traditional market ILS can help to <b>shift the supply and demand dynamic</b></li> <li>• Increasing competition with the traditional markets can <b>facilitate reduced pricing</b></li> </ul>

# Types of ILS Products

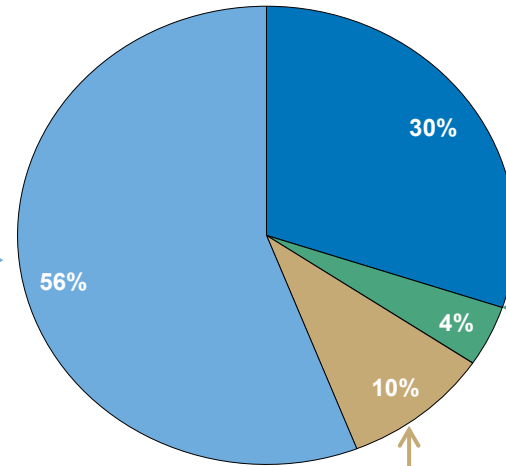
Investors are participating in ILS through multiple products

**Collateralised Re**

- Reinsurance fully collateralized by assets which eliminates credit risk exposure
- Typically, a 12-month risk period subject to extension
- Low to limited liquidity in secondary market
- Require transforming work (in private form)
- Avg. spread in the 10% - 25% range

**Cat Bonds**

- Fully collateralized securitization, alternative to traditional reinsurance
- Issued by (re)insurers or other corporate sponsors
- Generally, of 1–5-year term
- Active secondary market
- Average risk spreads between 5% - 15%



**Sidecars**

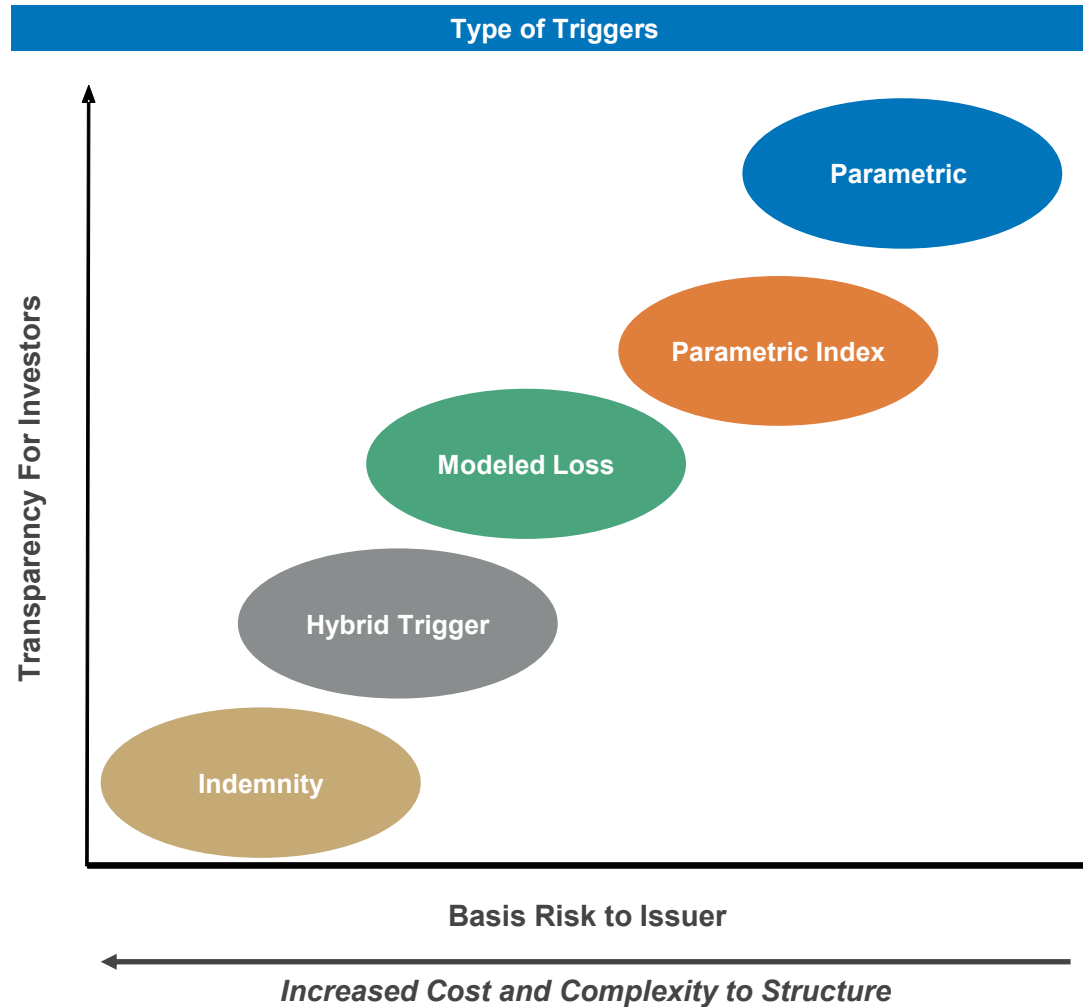
- Collateralized quota share reinsurance
- Investors participate proportionally in cedants' underwriting
- Set up for varying durations up to three years
- Varies from very low to moderate liquidity
- Risk premiums are in the 10% - 30% range

**Industry Loss Warranties (ILWs)**

- Recoveries are linked to overall industry losses
- Most traded in reinsurance form
- Typically, a 12-month risk period
- Limited liquidity in the secondary market
- The majority of ILW risk spreads are between 8% - 15%

# Trigger Alternatives

Different alternatives depending on cedant's objectives



# Some examples of innovation

The reinsurance market has continued to innovate over the years.

- Insurance Linked Securities
- **Cyber (re)insurance**
- Solvency II optimisation
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  - Block reinsurance
- Public-Private Partnerships
- Parametric
- Structured reinsurance

# Cyber Renewal Highlights

Buyers' market driven by increase in reinsurance capacity, and some reductions in reinsurance capacity demand

## 1/1 in Review

- Increasing interest in International growth
- Reducing Cessions and increasing commissions on Quota Shares
- Aggregate Stop Loss becoming more efficient and more innovative
- Event Protection, ILW & ILS Transactions continue
- Significant new Retro capacity and buyer interest
- Focus on performance
- No longer talking about War Exclusions

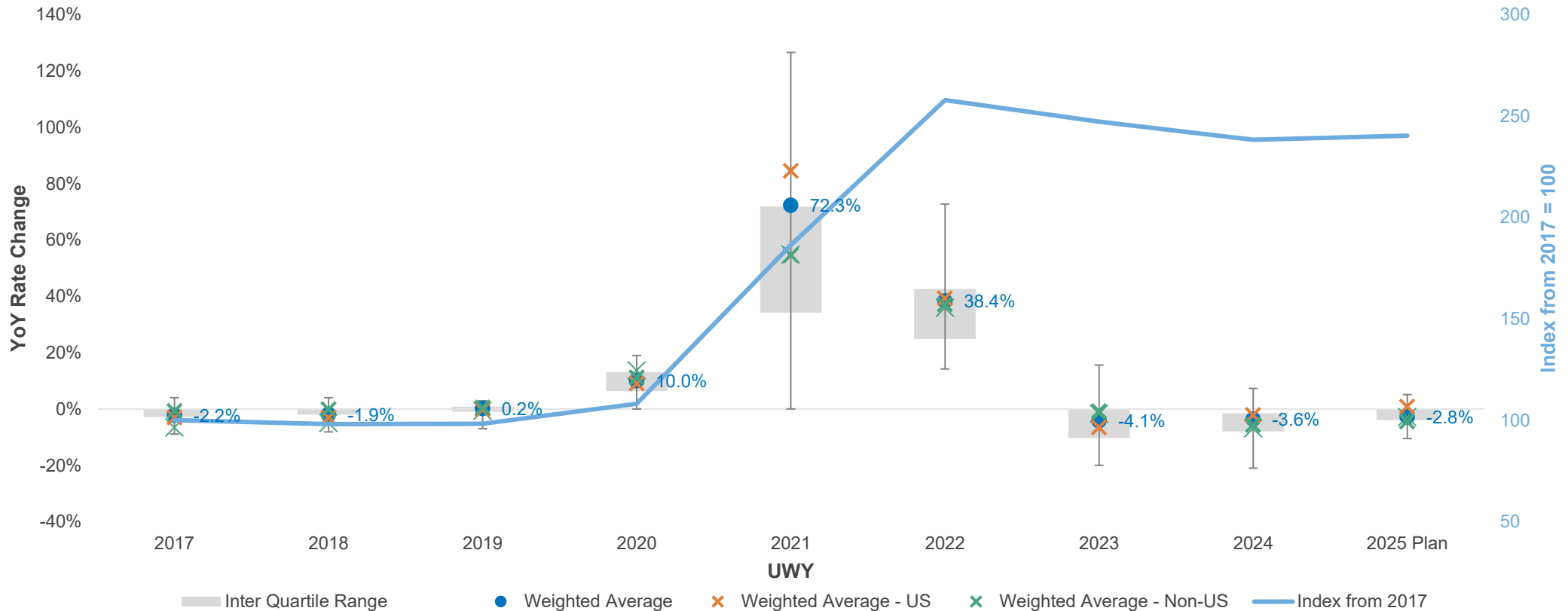
## 2025 Outlook

- RI terms to continue to soften
- QS Cessions to stabilize
- Value Hunting in Aggregate XLs / SL's market
- Onward March of Cyber CAT / Rated Event Solutions
- Retro to support the market
- Focus on cedant performance
- Focus on cedant strategies
- Timing & Execution

# Underlying Rate Change

Rate are expected to remain stable throughout 2025

Rate Change Benchmarking as at Q4 2024



# What is Cyber White-labelling?

## High level view



Access to a Cyber product which can be branded as your own offering



Provides cross-sell opportunities with other lines of business and a new revenue stream



Access to products created and delivered by cyber experts



Minimal upfront investment compared to creating your own product or hiring a team

### Insurance coverages available to SMEs:

1. Incident Response Expenses
2. Data Recovery
3. Business Interruption
4. Funds Transfer Fraud
5. Cyber Extortion
6. Liability
7. Regulatory Fines

### Insurance coverages available for individuals:

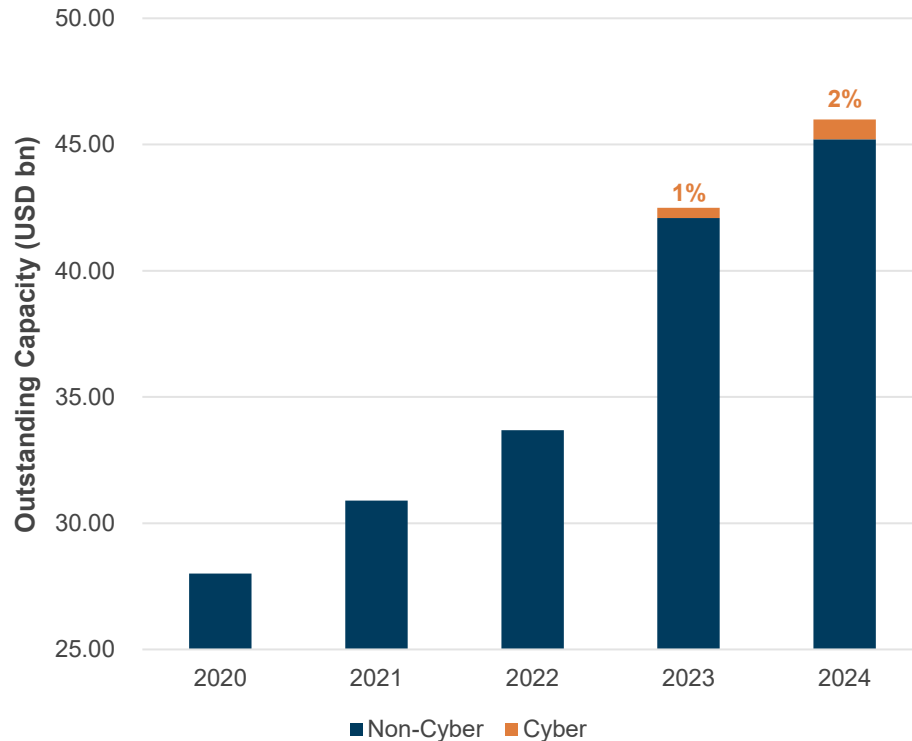
1. Identity theft
2. Online fraud
3. Home system compromise
4. Cyber Extortion
5. Cyber Bullying
6. Wage Replacement Expenses



# Cyber ILS Landscape

Cyber ILS is building momentum, with room for further growth

**Underwritten 144A Cat Bond  
Outstanding Capacity (USD billions)**



Source: Gallagher Securities Underwritten 144a Cat Bond Database

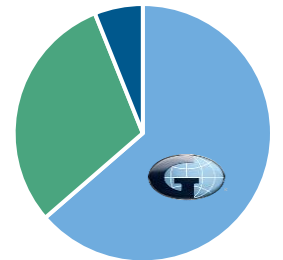
## Cyber Cat Bond Market Trajectory

The cyber cat bond market has grown from zero to almost \$800M of limit between 2023 and 2024, now contributing 2% of the outstanding cat bond capacity. There remains high potential for growth.

<p><b>\$785m</b></p> <p>Cyber Outstanding Amount <small>Only Rule 144A</small></p>	<p><b>6</b></p> <p>Number of Bonds</p>	<p><b>4</b></p> <p>Number of Major Sponsors</p>
<p><b>\$210m</b></p> <p>Largest Issuance <small>(Polestar Re 2024-3)</small></p>	<p><b>~20</b></p> <p>Number of Investors Participating</p>	<p><b>High</b></p> <p>Market Growth Potential</p>

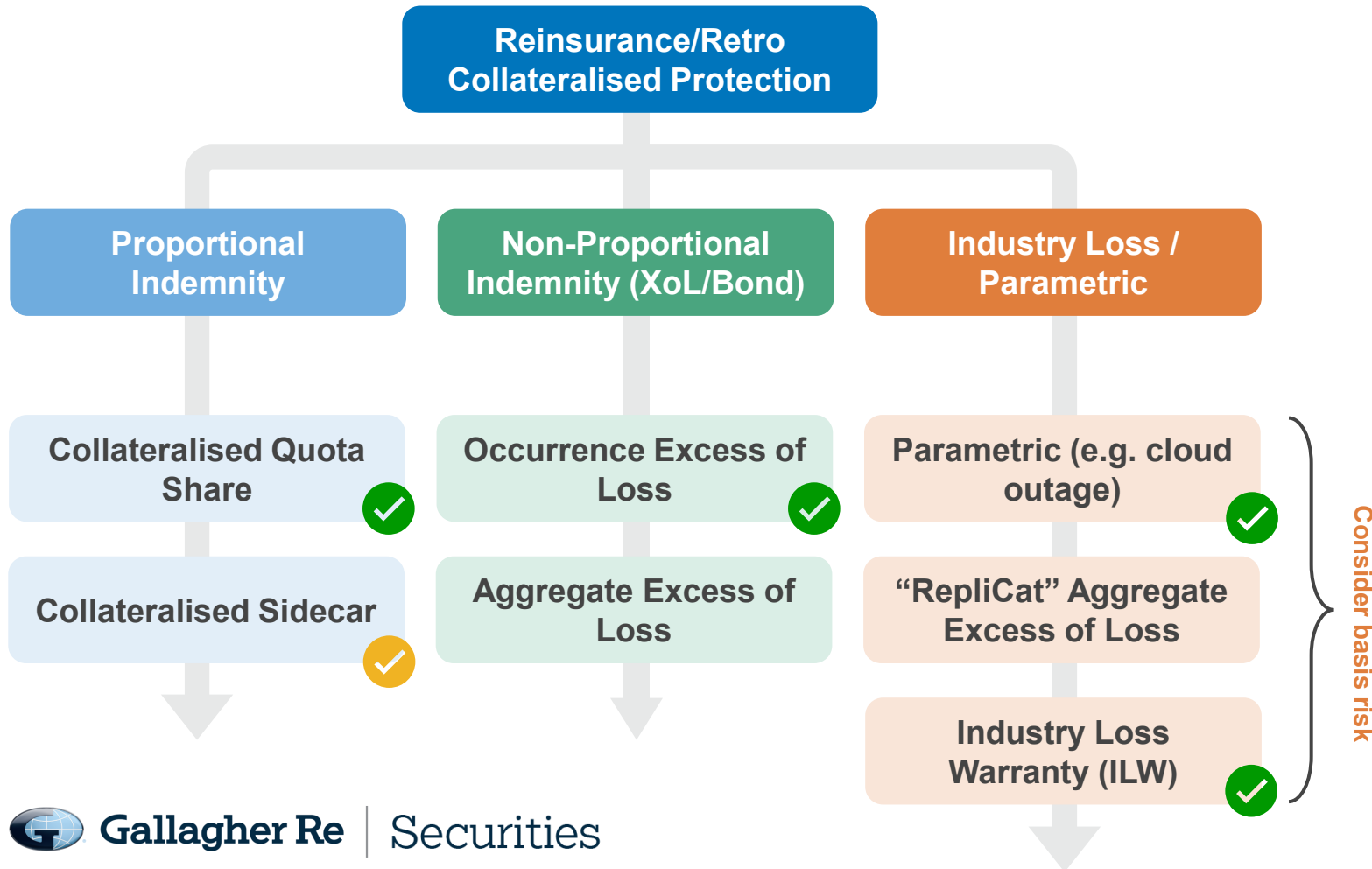
## Developing a Market – Gallagher Re

- As of Q4 2024, Gallagher Securities has placed over 60% of the cyber 144A cat bond market
- Growing interest from investors is being driven by education by Gallagher Re and others on the viability and profitability of the class of business

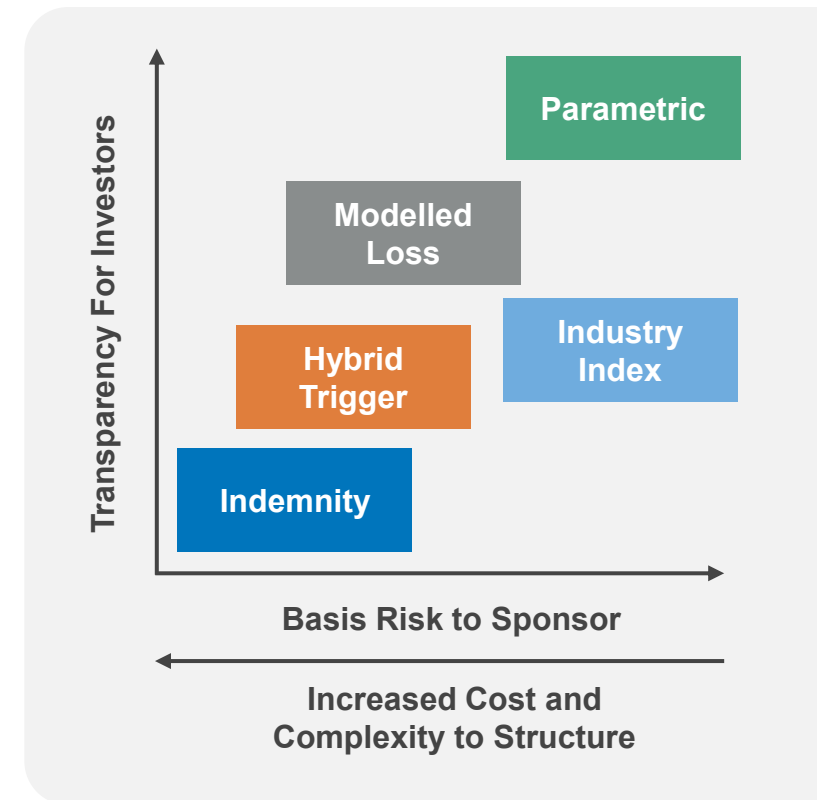


# Gallagher Re / Securities Cyber ILS Product Development

Investor Appetite for Cyber Risk Building across triggers and structures

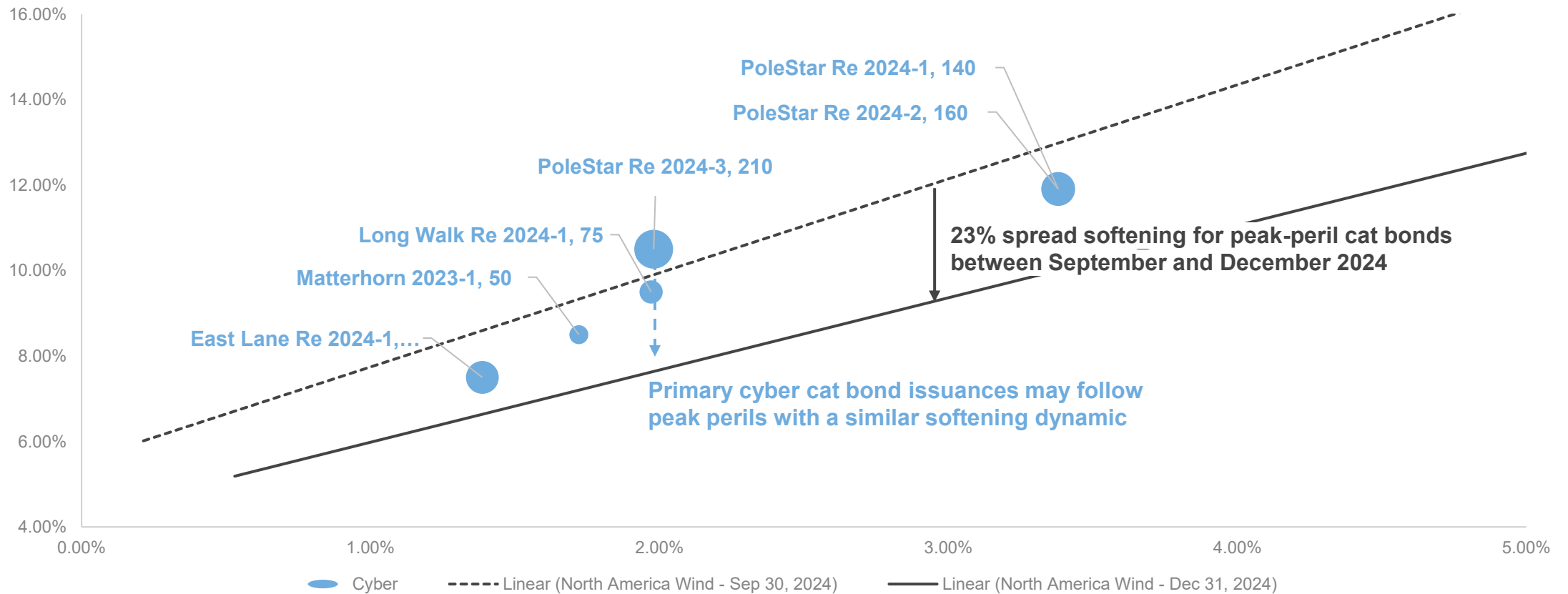


Transparency vs basis risk trade-off:

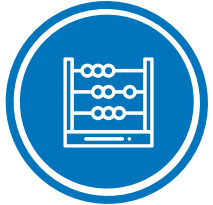


# Pricing Expectation

Cyber Cat Bond spreads expected to follow wider ILS market softening



# What may the future hold for cyber ILS?



**Increased Cat Bond competitiveness**, rate reductions through innovation and uncertainty premiums reduction, ILS to compete with rated occurrence markets



**Expanding investor pool** with more investors attracted to the investor space by strong returns and robust structures



**Expanding product spectrum** including aggregate covers and wider utilization of sidecars



**Continued market growth** led by new and returning sponsors, limited in the short-term to 5% of the total Assets under Management under co-mingled funds

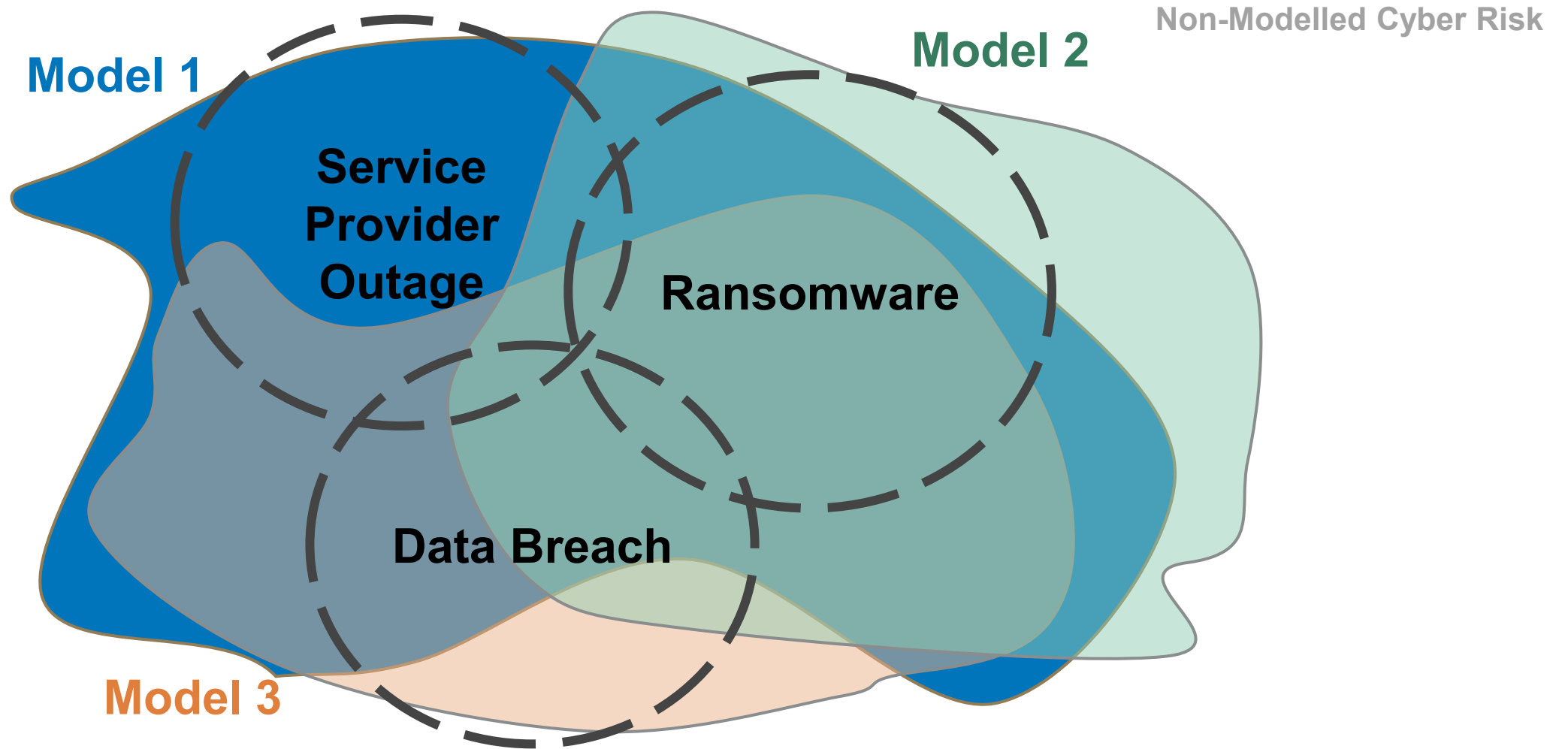


**Continued T&C development** – addressing evolving cyber contracts and modelling to provide a true “reinsurance substitute” to cedants

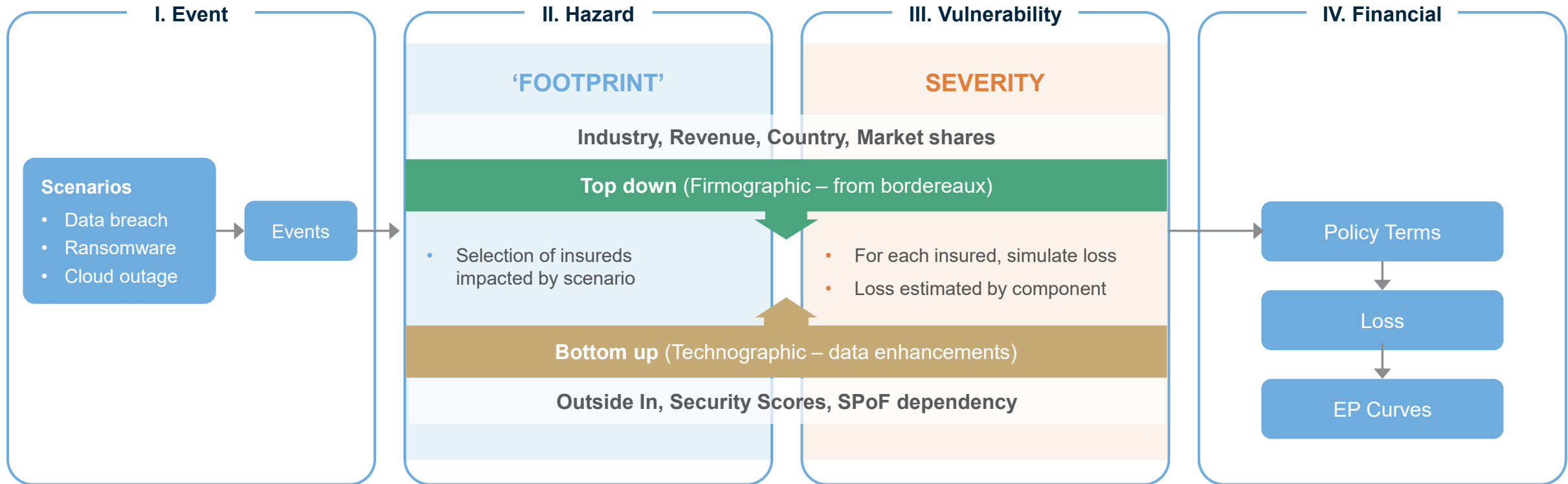


**Long-term unlocking of substantial Cyber ILS capacity** as investors start to establish non-cat specialty funds

# Cyber Model and Attack Types



# Approach to structuring cyber catastrophe models



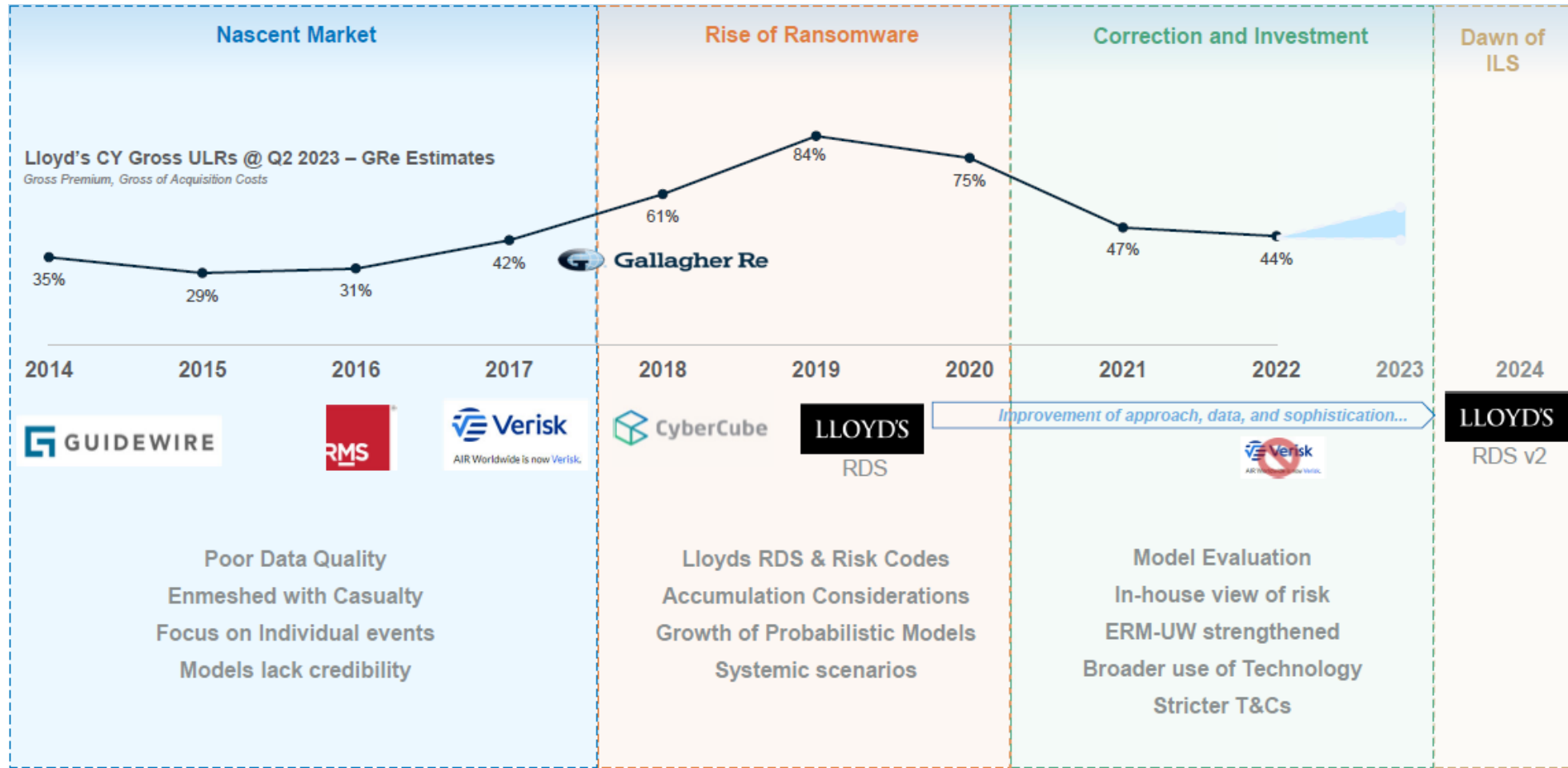
**Possible event:**

- AWS Aus outage for 5 days

**Financial Example:**

- Bought \$10M xs \$20M policy
- Recover on losses to layer

# Evolution of Cyber Models against the market



# Some examples of innovation

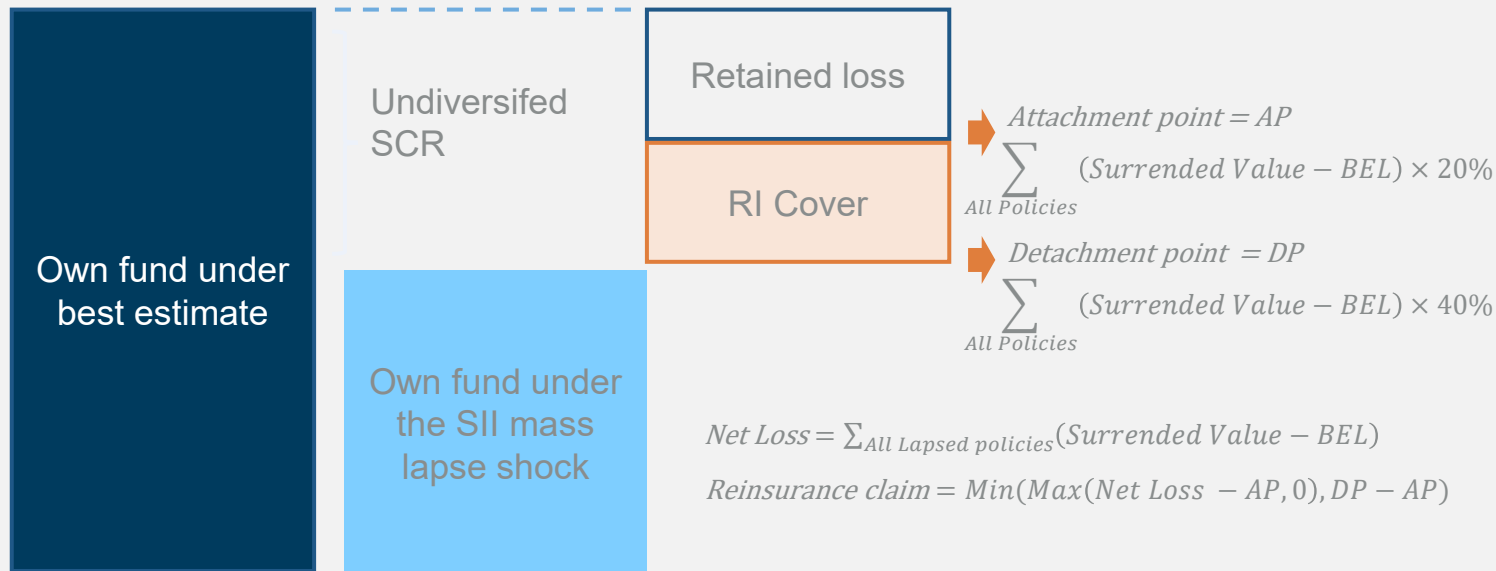
The reinsurance market has continued to innovate over the years.

- Insurance Linked Securities
- Cyber (re)insurance
- **Solvency II optimisation**
  - Mass lapse risk reinsurance
  - Block reinsurance
- Public-Private Partnerships
- Parametric
- Structured reinsurance

# Mass lapse risk reinsurance - Structure

Reinsurance against the loss of value on the portfolio if a massive group of insureds cancel or transfer their life insurance contracts

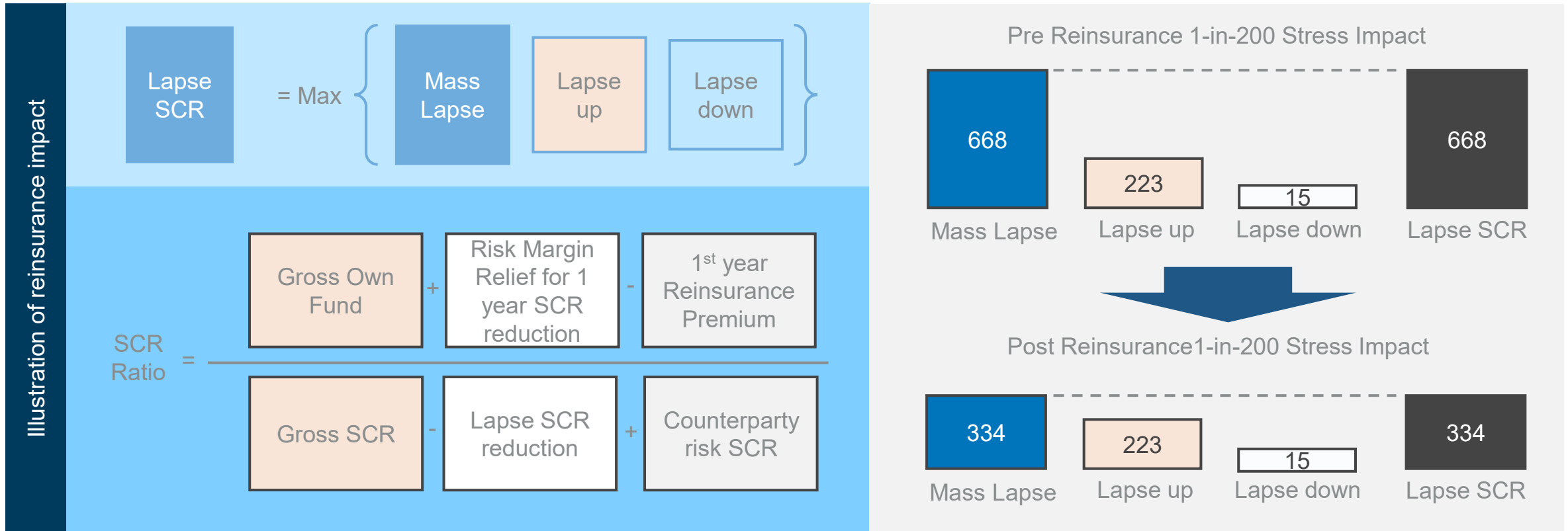
Illustration of reinsurance structure (Standard Formula example)



- Detachment point:** this should be calibrated to match the loss of own fund under standard formula 1-in-200 mass lapse stress for the portfolio considered. Any reinsurance capacity covering loss beyond the SII mass lapse shock would be redundant capacity without leading to any relief.
- Attachment point:** total loss in own fund for the portfolio considered under a stress that is broadly the mid-point between best estimate and the SII 1-in-200 stress.

# Mass lapse risk reinsurance – Solvency Impact

- The Mass lapse solution brings **material SII benefits** by reducing the size of the mass lapse SCR by up to 50%.
- This is partly offset by reinsurance premium and the increase in counterparty risk SCR.
- Reinsurance premium will be low compared to capital relief as CoC<=2% could be achievable depending on the products.



# Block reinsurance

This treaty enables reinsurance of both assets and liabilities on the balance sheet

Two implementation options are available:

## 1. Assets Collateral Account – Funds Transferred

- The INSURER transfers its assets to a collateral account.
- These assets are managed by the reinsurer, following investment principles agreed upon with the insurer.
- This setup helps reduce the SCR Market.

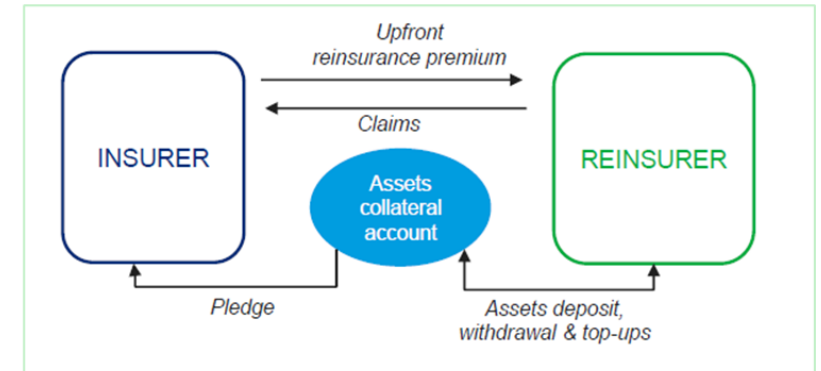
## 2. Fund Withheld – Assets Remain on INSURER's Balance Sheet

- The assets are managed by the insurer according to investment principles defined with the reinsurer.
- Cash flows generated by the reinsured assets are transferred to the reinsurer.
- This solution is easier to implement from a regulatory standpoint, as the assets remain on the insurer's balance sheet.

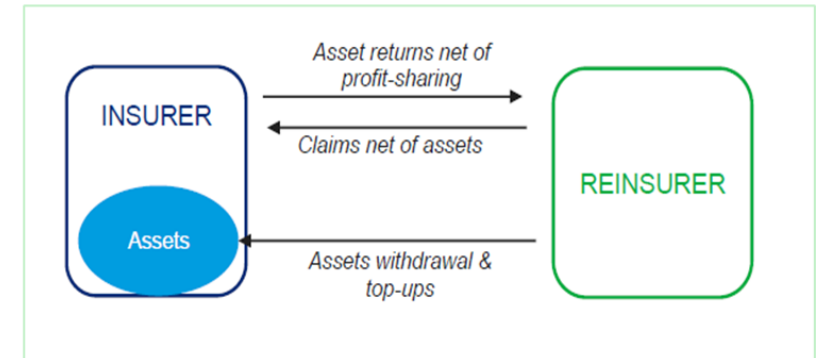
### Attention points:

- Complexity
- NBB consultation

### Fund transferred



### Fund withheld



# Some examples of innovation

The reinsurance market has continued to innovate over the years.

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# PPP are partnerships between the public and the private sectors

## Government's Contingent Liabilities

- Climate and extreme flood events affect the economy and livelihoods and **propagate over time**, sectors and geographies through various transmission channels
- Governments face both **explicit** (costs of repairing and reconstructing damaged public assets and infrastructure, state-backed loans/guarantees) and **implicit** (moral or commonly recognized but nonlegal public obligations) **disaster-related liabilities**.
- The public sector is currently the holder of the residual risk, which makes it liable for large climate-related catastrophe losses that are likely to increase in frequency and magnitude.
- In the absence of an adequate financial response, **these costs double or triple up over time**, creating significant burdens on the economy and the society.

# Deep dive Morocco

Advanced Public-Private Scheme supported by legal framework

Public Compensation Scheme backed by Parametric EQ Reinsurance with Fronting from Domestic Reinsurer SCR

**STRUCTURED, PLACED & MANAGED BY GALLAGHER RE**



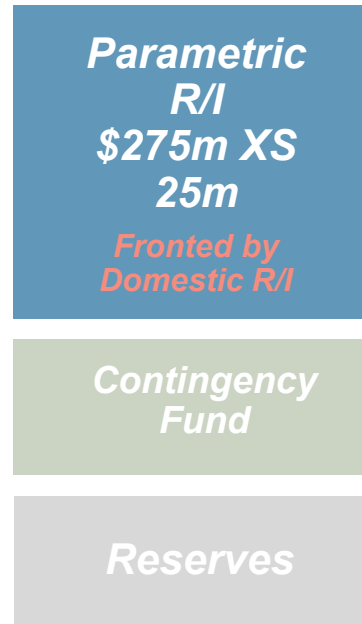
Fully Private EQ/FL/PVT Indemnity



## Private Insurance Scheme



## Solidarity Fund FSEC

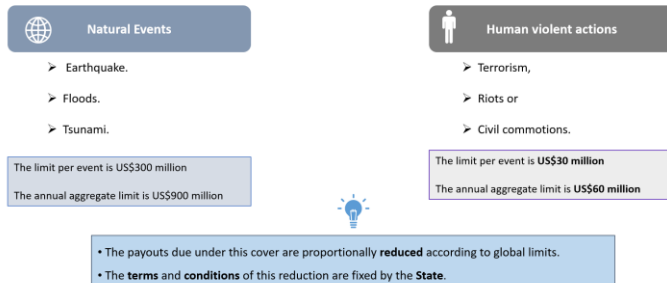


The FSEC is a public solidarity fund, aiming at indemnifying uninsured individuals in case of a catastrophe event and following loss of primary residence and bodily injury.

**Residential:**  
98% of households (~6m primary homes)

**Bodily Injury:**  
60% of population (~20m people)

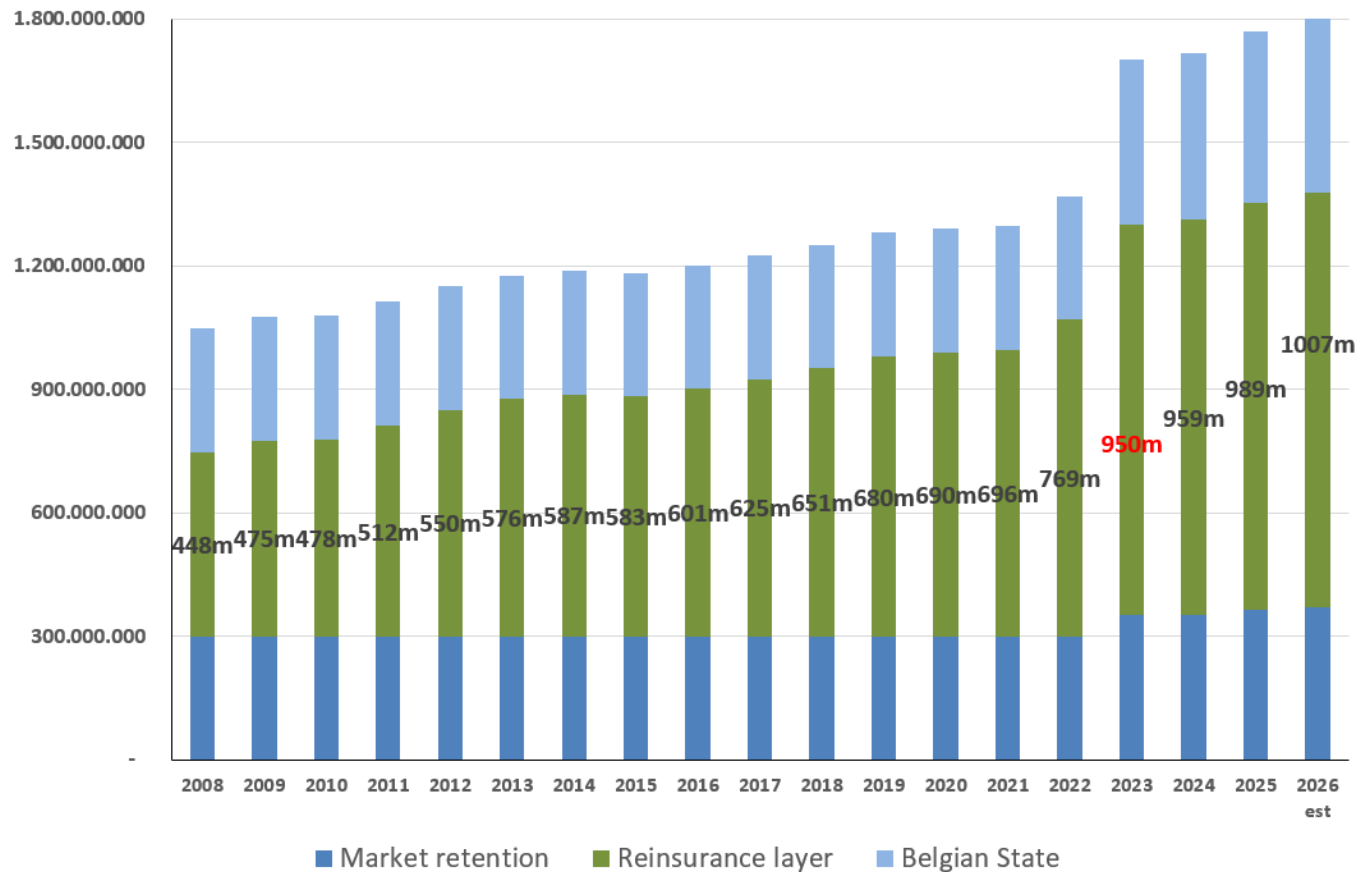
### Covered perils according to law 110-14



The catastrophe risk event must be recognised by State released in the Official Bulletin within 3 months of the occurrence date

# Terrorism Reinsurance and Insurance Pool (TRIP)

TRIP is the Belgian insurance market scheme providing terrorism insurance to almost all lines of business



The scheme allows for the total pooling of terrorism-related claims among insurers. These losses are distributed according to their market share. The Terrorism Act was revised after the 2016 attacks at Brussels Airport and Maalbeek metro station. The new law provides for insurance coverage of 1.7 billion (indexed) on an annual basis.

# Development of natural catastrophe insurance in Belgium

## A bit of modern history

Fire insurance developed in the 19th century

1976: Disaster Fund

1970: first multiperil policy

1990: Daria

1993 : compulsory storm cover in all simple risk policies

2014: responsibility for the Disaster Fund transferred to the Regions

2021: subsidence is covered

2024: limit increase for nat. cat. losses, but earthquake

2006: other natural disasters, subject to limit

2021: Bernd

### Bernd in EUR:

Type of risk	Cost (M EUR) 31 Dec. 2023
Simple risks	1,991 (961 paid by insurers)
Special risks	333
Motor	66
Total	2,319

Source: Assuralia

*The consequences of the 2021 floods revealed that there are significant gaps in insurance coverage, with estimates suggesting a significant percentage of households lacking adequate protection.*

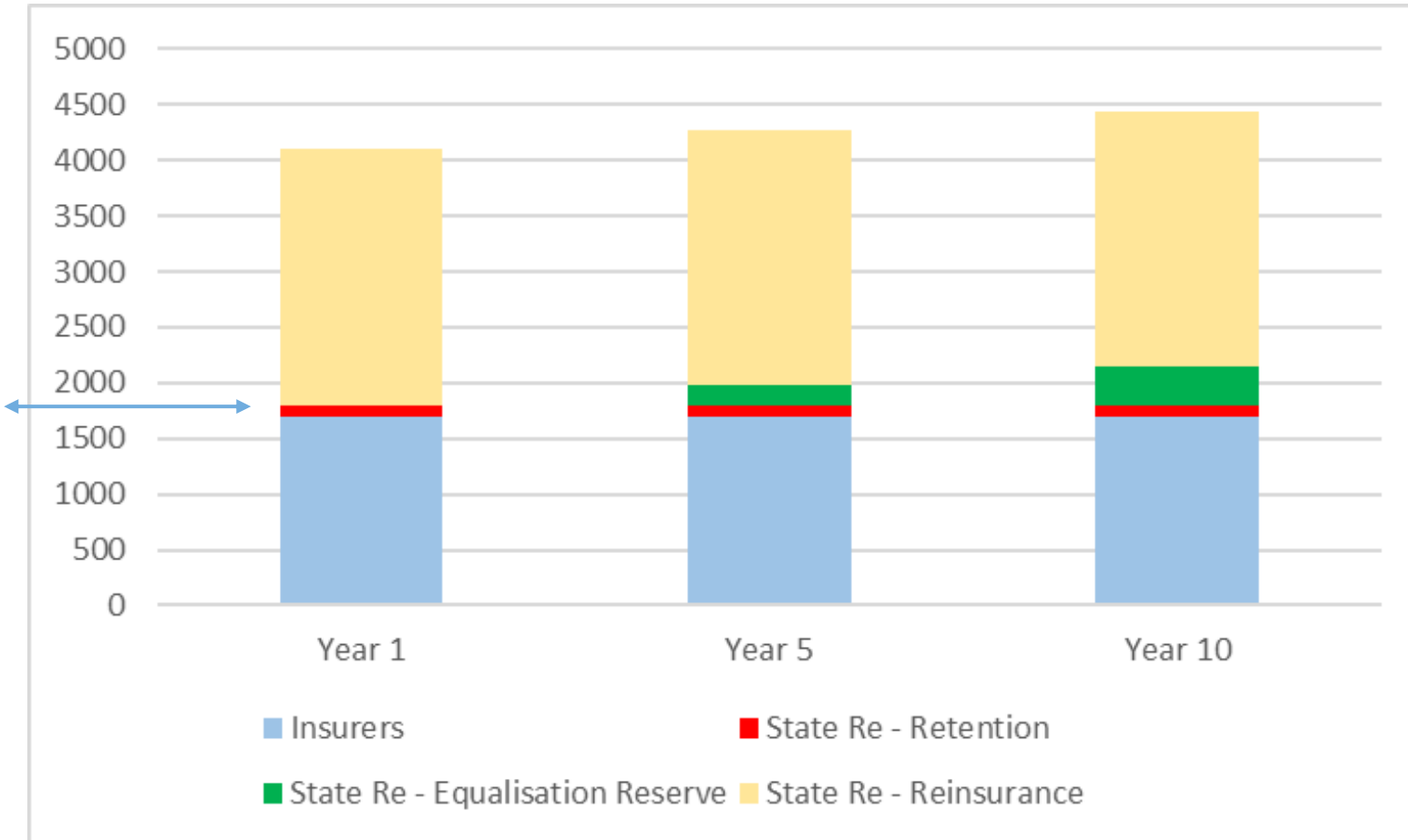
# Rethinking the Structure and Introducing Innovative Risk Transfer Mechanisms

How the financing of the nat cat insurance could be improved in Belgium ?

State reinsurer  
State Re

Same legal limit  
for all natural  
perils

Reinsurance  
premium to State  
Re financed by a  
tax on insurance  
premiums  
< 1% of total non-  
life premiums



Reinsurance of  
State Re:  
- Traditional  
reinsurance  
- Financial  
markets (cat bond)

A Europe-wide  
system is also  
possible, even  
preferable

# Some examples of innovation

The reinsurance market has continued to innovate over the years.

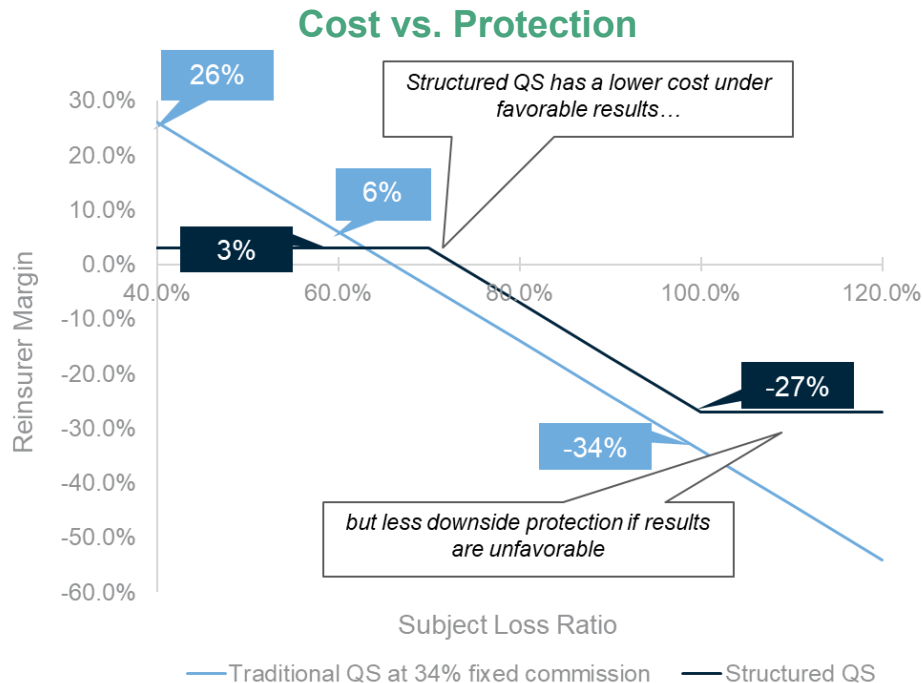
- Insurance Linked Securities
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  - Block reinsurance
- Public-Private Partnerships
- Parametric
- **Structured reinsurance**

# Structured Quota Share

Simultaneously manage capital strain and reduce profit leakage. Reinsurance can be more efficient and flexible than debt or equity.

## Rationale

- Achieve capital relief while minimizing ceded margin by incorporating structural features that reduce the reinsurer's exposure to ceded risk.



## Structural features utilized to lower cost & mitigate risk

- Profit Sharing: caps reinsurers' maximum compensation by returning excess profit to cedant,
- Sliding scale ceding commission: losses in a specified range are retained by cedant, limits reinsurers' downside
- Loss ratio caps: losses in excess of the cap are retained by the cedant
- Multi-year placement: provides time diversification
- Overall leverage results by transferring capital to the reinsurer's balance sheets

## Structured Quota Share vs. Debt Financing

### Structured QS

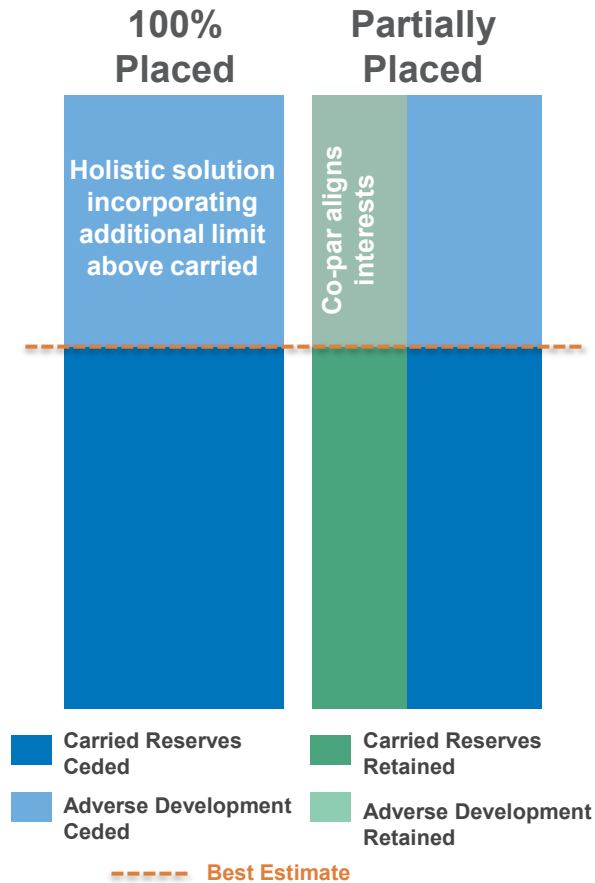
- Cost of "capital" is equal to the margin relative to capital benefit
- Has a 1 in 200 years aggregate limit to ensure capital relief
- Downside protection
- Widely available
- Easy to execute
- Flexible

### Debt Financing

- Cost of "capital" is equal to the spread between borrowing and investment rates
- No downside protection
- Availability may be limited
- Complicated execution
- Inflexible – fixed amount borrowed – typically five year "no call"

# Loss Portfolio Transfer: An effective capital management lever

You can customise the structure to meet your needs



## Concept

- Similar to a traditional quota share but based on reserves; it covers reported claims and IBNR
- Provides volatility protection by ceding the risk of adverse reserve development while providing capital relief through reduced reserve risk.

## Features

## Comment

<b>Scope</b>	Whole account or line of business – allows for operational and strategic considerations
<b>Cession rate</b>	Up to 100% - depends on the need for claims control.
<b>Duration</b>	Limited or unlimited time duration
<b>Limit</b>	Full capital relief up to 1/200, lower limits may reduce placement cost if that is a primary consideration
<b>Profit commission</b>	Common, especially for capital relief LPT
<b>Funds</b>	Withheld or transferred depending on crediting rates for funds withheld accounts vs asset mix and liquidity considerations for funds transferred
<b>Claims Control</b>	Retained or transferred depending on commercial and reputational considerations per individual client or line of business
<b>Collateral Requirement</b>	10-20% of net reserves standard. Consideration when reinsurer does not have benefit of rating (common with legacy / collateral markets)

# Loss Portfolio Transfer: Immediate reserving risk optimization

## Capital optimization and strategic objectives

### Elements of Risk Based Capital Solvency Requirements



### Reinsurance Capital Solution

#### Traditional Quota Share

- Premium risk is shared with reinsurer
- Solvency relief builds up as premium is ceded quarter by quarter

#### Reserve Quota Share

- Reserve risk is shared with reinsurer
- Immediate solvency relief since net reserves are immediately reduced

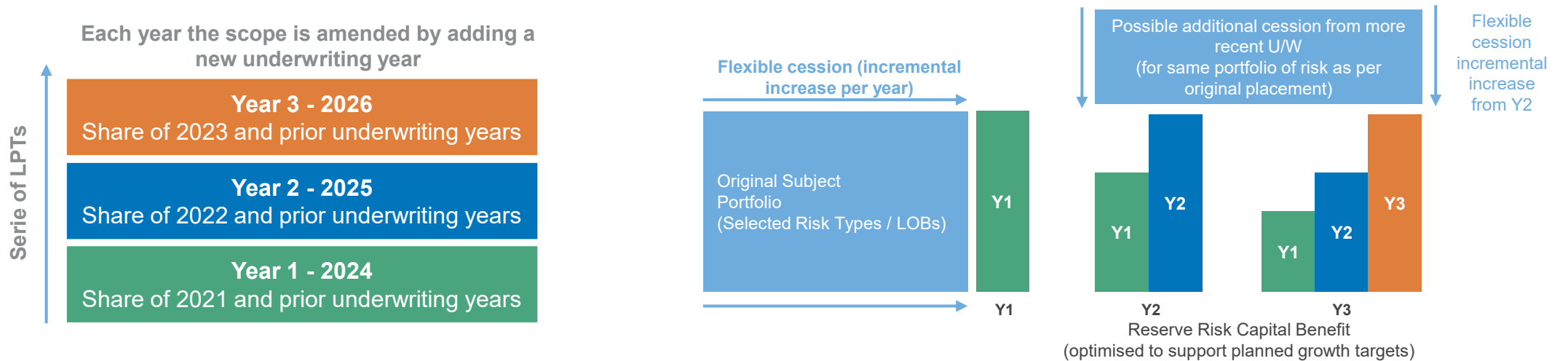
Tend to be smaller drivers motivating solutions

### Benefits of an LPT

- **Capital optimization:** Mainly used to provide capital relief via reserve risk optimization
- **Strategic and operational benefit:** An LPT can transfer a whole account or line of business, enabling strategic and operational changes and portfolio optimization
- **Reserve volatility reduction:** Earnings protection through risk of reserves adverse development from older years being ceded to reinsurer
- **Traditional reinsurance does not address reserving risk as well:** Proportional solutions take longer to mitigate the risk and non-proportional are not always recognized under Solvency II
- **Balance sheet improvement:** Reduces overweight net liability position on balance sheet for the present value of carried reserves
- **Ensure continuity:** Maintain claims handling and the relationship with your clients

# Structured LPT : a Flexible and Dynamic Capital Solution

## Structure & Key Benefits



### Structure

- Multi-year variable cession LPT with chosen reinsurance partner
- Variable scope: At each anniversary, the cedant has the possibility to add another underwriting year and/or change the ceded share
- Exclusivity agreement creates an 'option' to scale up the cession on original subject portfolio and / or more recent underwriting years of those reserves
- Structural features to retain control over claims management as well as the release of profits in loss reserves
- Certainty from pre-agreed pricing framework gives each party a means to assess cost/benefit of cession adjustments well ahead of potential execution dates

### Key Benefits

- Reinsurance is used as an alternative source of financing with a cost similar or lower than Tier 2
- Embeds proactive and flexible reserve management within wider capital management and growth strategies
- Execution risk is reduced due to a multiyear contract facilitating planning and delivering strategic objectives.
- Provides the secondary benefit of earnings volatility / balance sheet protection from prior year adverse development
- Secures longer term partnership for reinsurer avoiding annual competitive processes

# Net Financial Year Quota Share

Multi-year QS with reserves entry allowing for reduced solvency ratio at a competitive cost

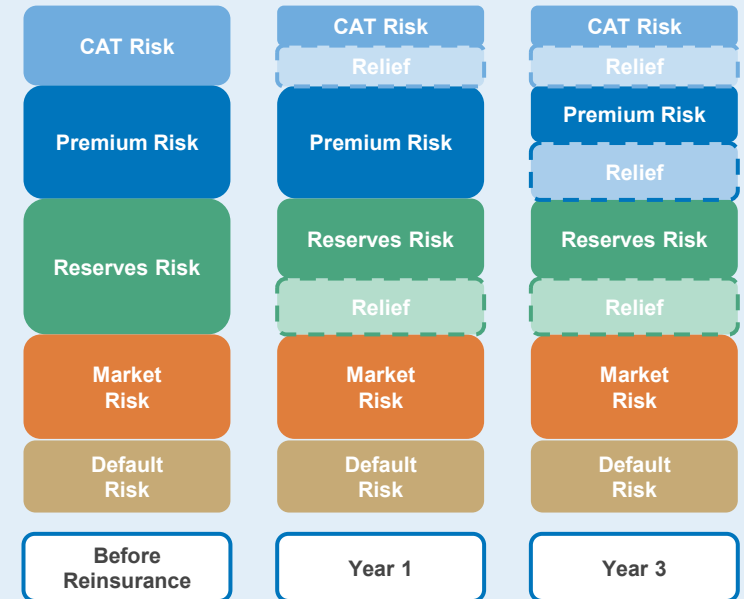
## Rationale

- Steer the solvency in a comfortable zone
- A Regular LPT provides an immediate capital relief but the effect is fading away over time
- QS solutions take time to provide a significant relief as premium risk relief is gradual throughout the year and remain subject to renewals
- The Net Financial Year Quota Share maximizes capital relief by combining the benefits of a QS and an LPT

## Concept

- This solution is a multi-year QS that incorporates a reserves loss entry component thus enabling a reduction in reserves risk and providing immediate solvency relief from day one
- Structured on a “clean-cut” basis, focusing on net retention
- Can be applied to either the entire account or specific lines of business (LoBs)
- Contains a sliding scale commission computed over the term and including the losses from the reserves
- Profit Commission at commutation allows for returning any profits in excess of the reinsurer’s margin
- When placed at a competitive cost, it potentially delivers the highest leverage of all reinsurance covers
- Some reinsurers prefer to offer a QS combined with an LPT. The solvency relief is identical, but the regulatory perception may be different
- This solution can be placed contingently and/or with a variable cession rate

## Capital Relief



- At year 1, the LPT has an immediate effect on the reserve risk while the QS has a progressive effect on the premium risk
- In addition, it has progressively a positive impact on the reserve risk
- QS also has a positive impact on the Catastrophe risk

# The Actuarial Contribution

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06

# What is the role of actuaries in reinsurance?

Reinsurance is a fantastic playground for actuaries, in an international context

## Pricing:

- Develop pricing models and methods
- B2B => every deal is priced individually
- Business oriented: common decision between pricing actuary and underwriter

## Reserving:

- Variety of different underlying portfolios, proportional and non-proportional
- Large losses behavior
- Individual loss reserving

## Solvency & capital modelling

- Standard formula is not appropriate for reinsurers => capital modelling is essential
- Quantify tail risks and catastrophe exposures
- Capital allocation

## Optimal reinsurance

- Right balance between reinsurance and capital

## Portfolio optimization

- Analyze diversification benefits across cedents and geographies

## Client & Broker Engagement

- Explain technical results and pricing rationale
- Support negotiations with data-driven insights

## IFRS17

- IFRS17 is a very technical norme

# Looking Ahead: Preparing for the Future

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07

# Artificial intelligence

Like many professions, artificial intelligence presents risks but also offers tremendous opportunities

**Question to Co-pilot : “how should reinsurers prepare for the future. Could you answer on 10 lines maximum?”**

**Answer:**

1. Leverage AI and data analytics to refine risk modelling and pricing.
2. Diversify portfolios across geographies and sectors to reduce exposure.
3. Invest in digital transformation for operational efficiency.
4. Adapt to climate risks with forward-looking strategies.
5. Maintain strong capital buffers for resilience against catastrophes.
6. Collaborate closely with insurers to optimize risk-sharing.
7. Monitor regulatory shifts and ensure agile compliance.
8. Innovate new products for emerging and underserved markets.
9. Strengthen cybersecurity to safeguard data and trust.
10. Commit to sustainability to meet ESG expectations and attract investment.

# Reinsurance is there to stay

## Insurance has an economic and societal role, and cannot survive without reinsurance

1. Leverage AI and data analytics to refine risk modelling and pricing.
2. Diversify portfolios across geographies and sectors to reduce exposure.
3. Invest in digital transformation for operational efficiency.
4. Adapt to climate risks with forward-looking strategies.
5. Maintain strong capital buffers for resilience against catastrophes.
6. Collaborate closely with insurers to optimize risk-sharing.
7. Monitor regulatory shifts and ensure agile compliance.
8. Innovate new products for emerging and underserved markets.
9. Strengthen cybersecurity to safeguard data and trust.
10. Commit to sustainability to meet ESG expectations and attract investment.
11. Increase societal role:
  - Support the economic development of developing countries through PPPs.
  - Build collaborative partnerships with governments and insurers.
  - Expand into underinsured markets.
  - Develop climate resilience solutions.
  - Help on prevention.

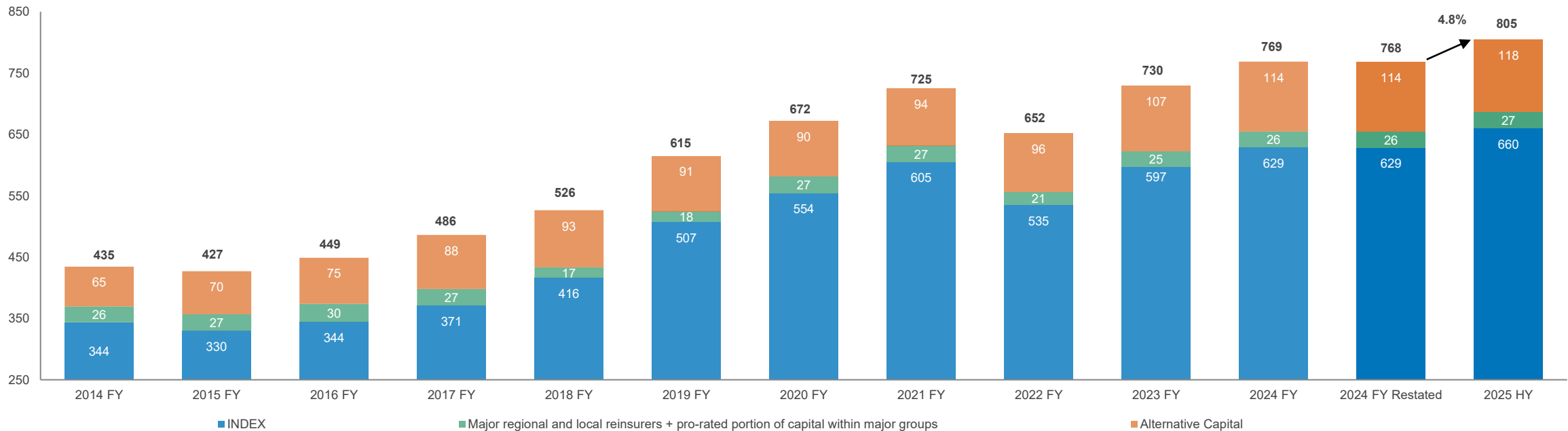


# Appendix

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# Reinsurance dedicated capital rises to a new peak

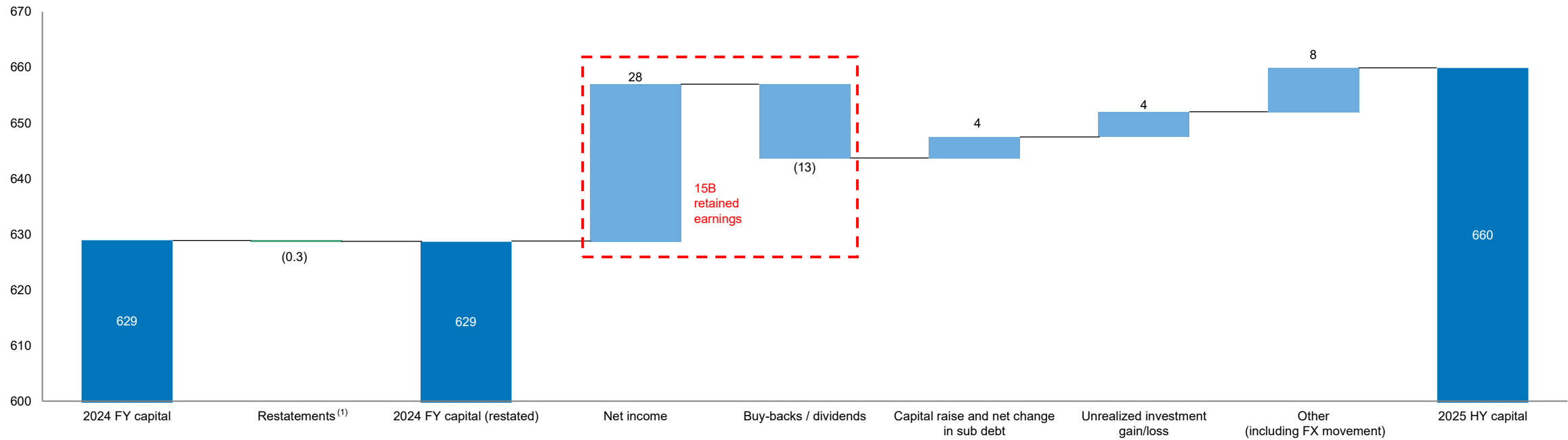
Total reinsurance dedicated capital (USD billion)<sup>(1)(2)</sup>



- Global reinsurance dedicated capital totaled USD805B at half year 2025, a rise of 4.8% versus the restated 2024 base.
- INDEX capital was up by 5% to USD660B with retained earnings being the key driver (making up about half the capital growth).
- Non-life alternative capital increased by 3.6%, to USD118B, driven by net inflows and favorable performance.

# INDEX capital driven by retained earnings

## Capital analysis for the INDEX (USD billion)



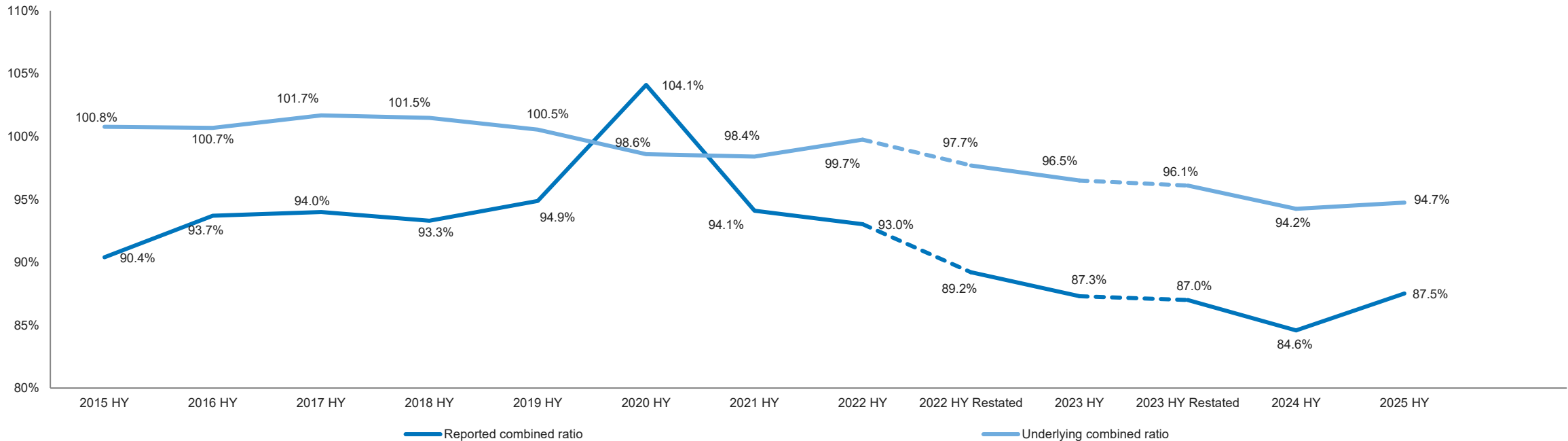
- INDEX(\*) capital rose by USD31B to USD660B, the main driver of which was USD15B in retained earnings (net income of USD28B, of which USD13B of capital was returned); FX effects amplified reported capital growth despite dividend payouts and buybacks.
- There were no significant new entrants, or capital raises by existing INDEX constituents, despite continued favorable market conditions. A net increase in subordinated debt in 2025 HY added USD4B to INDEX capital.

(\*) INDEX : Capital of at least USD1B or total group NWP of at least USD1B, and reinsurance NWP at least 10% of group NWP.

(1) Year-end 2024 capital has been restated for late filers and remains broadly unchanged at USD629B.

# Underlying CR slightly up; reported CR driven by nat cats and ER

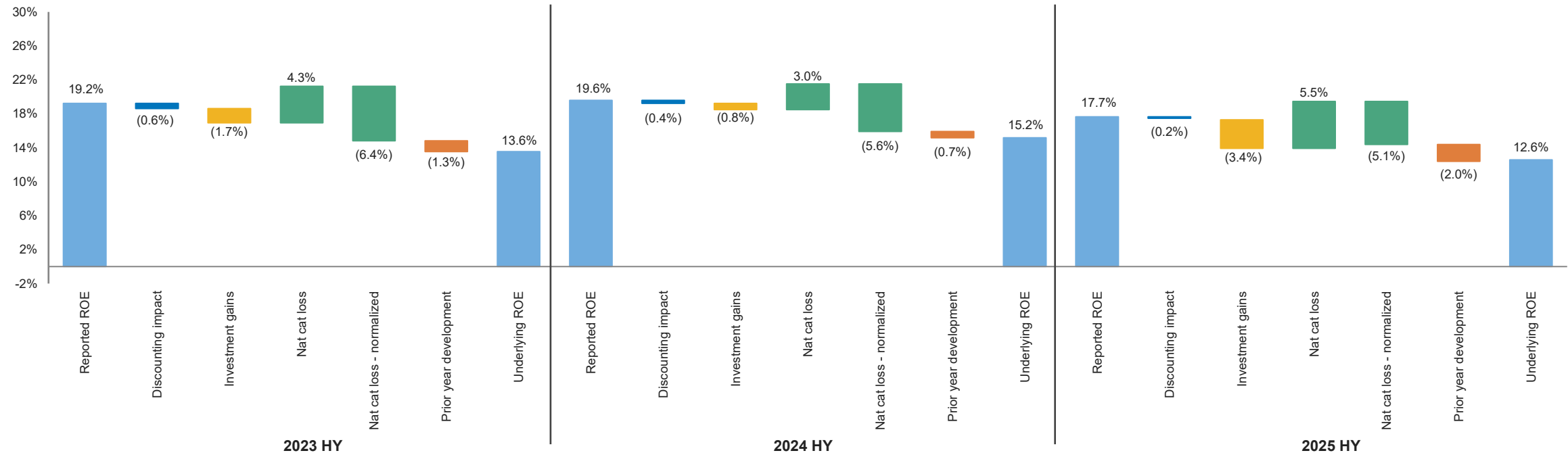
## Reported and underlying combined ratio time series for the SUBSET<sup>(1)</sup>



- Reported combined ratio deteriorated by (2.9 pts) driven by CA/LA wildfire losses and weaker expense ratio (+0.9 pts) partly offset by prior year reserve releases (+2.2 pts)
- The ex-natural catastrophe accident year loss ratio remained stable in 2025 HY, indicating minimal impact from the risk-adjusted rate reductions observed at recent renewals.
- For the first time since 2022 HY, the underlying CR ratio deteriorated (+0.5pts). Nevertheless, it remains at a historically strong level of 94.7%.

# Strong ROEs despite softening market, nat cats, and FX headwinds

## ROE analysis for the SUBSET (1)(2)

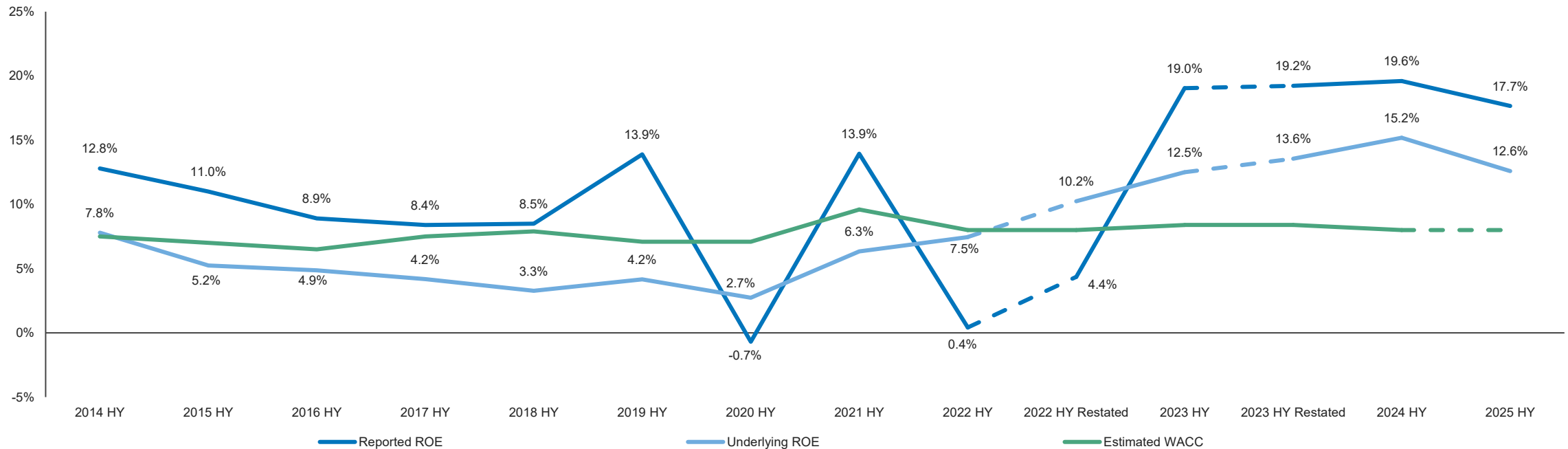


- The SUBSET reported an attractive 17.7% ROE for 2025 HY, albeit down from the exceptionally strong 19.6% in 2024 HY. The decline in headline ROE is driven by a lower underlying ROE (12.6% vs 15.2%).
- In 2025 HY nat cat losses are slightly above normalized levels (5.5ppts vs 5.1ppts) which is unusual for first half. this was entirely driven by the CA/LA wildfires, whilst the impact from other nat cat losses remained limited; offset by higher investment gains and PYD.
- The underlying ROE declined 2.6ppts to 12.6% although lower but well above cost of capital and resilient.

(1) Figures for PYD are estimated for Swiss Re (2023, 2025 HY) and SCOR (2023, 2024, 2025 HY). Expense ratios are estimated for Swiss Re (2023 HY) and Hannover Re (2023, 2024, 2025 HY). Natural catastrophe loss ratios are estimated for Swiss Re (2023 HY). Estimates are based on Gallagher Re calculations.  
 (2) We strip out investment gains/losses because, over time in a stable macro environment, they should largely net out to zero. Gains on fixed income should net out to zero. Equity investments should produce gains but most reinsurers allocate very little of their investments to equities.

# ROEs well above cost of capital

## ROE for the SUBSET<sup>(1)(2)</sup>



- ROE remains strong despite being lower than the past two years, underlying and headline ROEs stay well above cost of capital, supported by higher interest rates and premium increases.

# Philippe De Longueville

## Passionate about reinsurance and training

With over 30 years of experience in the (re)insurance industry, Philippe brings a wealth of expertise and insight. He currently serves as Head of the Belgian Branch and Senior Broker at Gallagher Re, a role he took on in July 2022. His career spans leadership positions including Executive Committee Member, Director, and Chief Risk Officer at P&V, and two decades at Secura/QBE Re, where he held various technical, underwriting, and management roles.

Philippe is also deeply engaged in governance and oversight, serving as an Independent Board Member and Chair of the Audit and Risk Committee at Federale Assurance, Curalia, and Credal.

In addition to his professional achievements, Philippe is passionate about education and knowledge-sharing. He is an invited lecturer in the Master's program in Actuarial Sciences at UCLouvain, where he teaches Enterprise Risk Management and Reinsurance & Alternative Risk Transfers. He is a regular speaker in conferences and board training programmes.

Philippe holds a Master's degree in Mathematics and Actuarial Sciences from UCLouvain.



## It's the way we do it.

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